**STATE OF UTAH**
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 3
AMENDED REPORT ☑

| APPLICATION FOR PERMIT TO DRILL | |
|---|---|
| | **1. WELL NAME and NUMBER** NBU 921-35J1BS |
| **2. TYPE OF WORK** DRILL NEW WELL ◉ REENTER P&A WELL ○ DEEPEN WELL ○ | **3. FIELD OR WILDCAT** NATURAL BUTTES |
| **4. TYPE OF WELL** Gas Well Coalbed Methane Well: NO | **5. UNIT or COMMUNITIZATION AGREEMENT NAME** NATURAL BUTTES |
| **6. NAME OF OPERATOR** KERR-MCGEE OIL & GAS ONSHORE, L.P. | **7. OPERATOR PHONE** 720 929-6007 |
| **8. ADDRESS OF OPERATOR** P.O. Box 173779, Denver, CO, 80217 | **9. OPERATOR E-MAIL** Kathy.SchneebeckDulnoan@anadarko.com |
| **10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)** ML 22582 — **11. MINERAL OWNERSHIP** FEDERAL ○ INDIAN ○ STATE ◉ FEE ○ | **12. SURFACE OWNERSHIP** FEDERAL ○ INDIAN ○ STATE ◉ FEE ○ |
| **13. NAME OF SURFACE OWNER (if box 12 = 'fee')** | **14. SURFACE OWNER PHONE (if box 12 = 'fee')** |
| **15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')** | **16. SURFACE OWNER E-MAIL (if box 12 = 'fee')** |
| **17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')** — **18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS** YES ◉ (Submit Commingling Application) NO ○ | **19. SLANT** VERTICAL ○ DIRECTIONAL ◉ HORIZONTAL ○ |

| 20. LOCATION OF WELL | FOOTAGES | QTR-QTR | SECTION | TOWNSHIP | RANGE | MERIDIAN |
|---|---|---|---|---|---|---|
| LOCATION AT SURFACE | 2053 FNL 1613 FEL | SWNE | 35 | 9.0 S | 21.0 E | S |
| Top of Uppermost Producing Zone | 2419 FSL 1824 FEL | NWSE | 35 | 9.0 S | 21.0 E | S |
| At Total Depth | 2419 FSL 1824 FEL | NWSE | 35 | 9.0 S | 21.0 E | S |

| | | |
|---|---|---|
| **21. COUNTY** UINTAH | **22. DISTANCE TO NEAREST LEASE LINE (Feet)** 1824 | **23. NUMBER OF ACRES IN DRILLING UNIT** 321 |
| | **25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)** 842 | **26. PROPOSED DEPTH** MD: 9824 TVD: 9697 |
| **27. ELEVATION - GROUND LEVEL** 5120 | **28. BOND NUMBER** 22013542 | **29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE** Permit #43-8496 |

**ATTACHMENTS**

**VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES**

| | |
|---|---|
| ☑ **WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER** | ☑ **COMPLETE DRILLING PLAN** |
| ☐ **AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)** | ☐ **FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER** |
| ☑ **DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)** | ☑ **TOPOGRAPHICAL MAP** |

| | | |
|---|---|---|
| **NAME** Danielle Piernot | **TITLE** Regulatory Analyst | **PHONE** 720 929-6156 |
| **SIGNATURE** | **DATE** 11/23/2010 | **EMAIL** gnbregulatory@anadarko.com |
| **API NUMBER ASSIGNED** 43047513640000 | **APPROVAL** | Permit Manager |

| Proposed Hole, Casing, and Cement | | | | | | |
|---|---|---|---|---|---|---|
| **String** | **Hole Size** | **Casing Size** | **Top (MD)** | **Bottom (MD)** | | |
| Prod | 7.875 | 4.5 | 0 | 9824 | | |
| **Pipe** | **Grade** | **Length** | **Weight** | | | |
| | Grade I-80 Buttress | 9777 | 11.6 | | | |
| | Grade HCP-110 VAM FJL | 47 | 11.6 | | | |
| | | | | | | |

| Proposed Hole, Casing, and Cement | | | | | | |
|---|---|---|---|---|---|---|
| **String** | **Hole Size** | **Casing Size** | **Top (MD)** | **Bottom (MD)** | | |
| Surf | 11 | 8.625 | 0 | 2400 | | |
| **Pipe** | **Grade** | **Length** | **Weight** | | | |
| | Grade J-55 LT&C | 2400 | 28.0 | | | |
| | | | | | | |

'APIWellNo:43047513640000'



# Kerr-McGee Oil & Gas Onshore. L.P.

**NBU 921-35J1BS**

| | | |
|---|---|---|
| Surface: | 2053 FNL / 1613 FEL | SWNE |
| BHL: | 2419 FSL / 1824 FEL | NWSE |

Section 35 T9S R21E

Unitah County, Utah
Mineral Lease: ST UT ML 22582

**ONSHORE ORDER NO. 1**

**DRILLING PROGRAM**

**1. & 2.** **Estimated Tops of Important Geologic Markers:**
**Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:**

| Formation | Depth | Resource |
|---|---|---|
| Uinta | 0 - Surface | |
| Green River | 1473 | |
| Birds Nest | 1773 | Water |
| Mahogany | 2150 | Water |
| Wasatch | 4744 | Gas |
| Mesaverde | 7461 | Gas |
| MVU2 | 8350 | Gas |
| MVL1 | 8905 | Gas |
| TVD | 9697 | |
| TD | 9824 | |

**3.** **Pressure Control Equipment** (Schematic Attached)

*Please refer to the attached Drilling Program*

**4.** **Proposed Casing & Cementing Program:**

*Please refer to the attached Drilling Program*

**5.** **Drilling Fluids Program:**

*Please refer to the attached Drilling Program*

**6.** **Evaluation Program:**

*Please refer to the attached Drilling Program*

**7. Abnormal Conditions:**

Maximum anticipated bottom hole pressure calculated at 9,697' TVD, approximately equals 5,941 psi (calculated at 0.61 psi/foot).

Maximum anticipated surface pressure equals approximately 3,807 psi (bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot).

**8. Anticipated Starting Dates:**

**9. Variances:**

*Please refer to the attached Drilling Program.*
*Onshore Order #2 – Air Drilling Variance*

*Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2*

- *Blowout Prevention Equipment (BOPE) requirements;*
- *Mud program requirements; and*
- *Special drilling operation (surface equipment placement) requirements associated with air drilling.*

*This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.*

*The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.*

*More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.*

***Background***
*In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.*

*Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.*

*The air rig is then mobilized to drill the surface casing hole by drilling a 11 inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 12-1/4 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 8-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.*

*KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.*

***Variance for BOPE Requirements***

*The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.*

***Variance for Mud Material Requirements***

*Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.*

***Variance for Special Drilling Operation (surface equipment placement) Requirements***

*Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.*

*Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.*

*Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.*

*Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie*

*line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.*

*Conclusion*
*The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.*

**10. Other Information:**

*Please refer to the attached Drilling Program.*

'APIWellNo:43047513640000'

# KERR-McGEE OIL & GAS ONSHORE LP

## DRILLING PROGRAM

| | | | |
|---|---|---|---|
| COMPANY NAME | KERR-McGEE OIL & GAS ONSHORE LP | DATE | November 17, 2010 |
| WELL NAME | **NBU 921-35J1BS** | TD | 9,697' TVD 9,824' MD |
| FIELD | Natural Buttes | COUNTY Uintah STATE Utah | FINISHED ELEVATION 5,119' |
| SURFACE LOCATION | SWNE 2053 FNL 1613 FEL | Sec 35 T 9S R 21E | |
| | Latitude: 39.994158 | Longitude: -109.514544 | NAD 83 |
| BTM HOLE LOCATION | NWSE 2419 FSL 1824 FEL | Sec 35 T 9S R 21E | |
| | Latitude: 39.991931 | Longitude: -109.515293 | NAD 83 |
| OBJECTIVE ZONE(S) | Wasatch/Mesaverde | | |
| ADDITIONAL INFO | Regulatory Agencies: UDOGM (Minerals), UDOGM (Surface), UDOGM Tri-County Health Dept. | | |

| GEOLOGICAL | | | MECHANICAL | | |
|---|---|---|---|---|---|
| LOGS | FORMATION TOPS | DEPTH | HOLE SIZE | CASING SIZE | MUD WEIGHT |
| | | 40' | | 14" | |
| | | | 11" | 8-5/8", 28#, IJ-55, LTC | Air mist |
| | Green River @ | 1,473' | | | |
| | Top of Birds Nest @ | 1,773' | | | |
| | Mahogany @ | 2,150' | | | |
| | Preset f/ GL @ | 2,400' MD | | | |
| | Wasatch @ | 4,744' | | | |
| Mud logging program TBD<br>Cased hole logging program from TD - surf csg | | | 7-7/8" | 4-1/2" 11.6# I-80 or equivalent BTC csg | Water / Fresh Water Mud 8.3-12.0 ppg |
| | Mverde @ | 7,461' TVD | | | |
| | MVU2 @ | 8,350' TVD | | | |
| | MVU1 @ | 8,905' TVD | | | |
| Max anticipated Mud required 12.0 ppg | TD @ | 9,697' TVD 9,824' MD | | | |

**All water flows encountered while drilling will be reported to the appropriate agencies.**

Note: 11" surface hole will usually be drilled ±400' below the lost circulation zone (aka bird's nest). Drilled depth may be ±200' of the estimated set depth depending on the acutal depth of the loss zone.

'APIWellNo:43047513640000'

# KERR-McGEE OIL & GAS ONSHORE LP

DRILLING PROGRAM

## CASING PROGRAM

| | SIZE | INTERVAL | | | WT. | GR. | CPLG. | DESIGN FACTORS BURST | COLLAPSE | TENSION |
|---|---|---|---|---|---|---|---|---|---|---|
| CONDUCTOR | 14" | 0-40' | | | | | | | | |
| | | | | | | | | 3,390 | 1,880 | 348,000 |
| SURFACE | 8-5/8" | 0 | to | 2,400 | 28.00 | IJ-55 | LTC | 0.85 | 1.67 | 5.13 |
| | | | | | | | | 7,780 | 6,350 | 278,000 |
| PRODUCTION | 4-1/2" | 0 | to | 9,777 | 11.60 | I-80 | BTC | 2.00 | 1.05 | 2.80 |
| | | | | | | | | 10690 | 7580 | 367000 |
| | 4-1/2" | 9,777 | to | 9,824 | 11.60 | HCP-110 | BTC | 2.73 | 1.25 | 3.69 |

*Burst on suface casing is controlled by fracture gradient as shoe with gas gradient above. D.F. = 2.24

1) Max Anticipated Surf. Press.(MASP) (Surface Casing) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point))

2) MASP (Prod Casing) = Pore Pressure at TD - (0.22 psi/ft-partial evac gradient x TD)
(Burst Assumptions: TD = 12.0 ppg) 0.22 psi/ft = gradient for partially evac wellbore
(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing*Buoy.Fact. of water)
**MASP 3,807 psi**

3) Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD
(Burst Assumptions: TD = 12.0 ppg) 0.61 psi/ft = bottomhole gradient
(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing*Buoy.Fact. of water)
**MABHP 5,941 psi**

## CEMENT PROGRAM

| | | FT. OF FILL | DESCRIPTION | SACKS | EXCESS | WEIGHT | YIELD |
|---|---|---|---|---|---|---|---|
| SURFACE | LEAD | 500' | Premium cmt + 2% CaCl | 180 | 60% | 15.80 | 1.15 |
| **Option 1** | | | + 0.25 pps flocele | | | | |
| | TOP OUT CMT (6 jobs) | 1,200' | 20 gals sodium silicate + Premium cmt | 270 | 0% | 15.80 | 1.15 |
| | | | + 2% CaCl + 0.25 pps flocele | | | | |
| SURFACE | | | **NOTE: If well will circulate water to surface, option 2 will be utilized** | | | | |
| **Option 2** | LEAD | 1,900' | 65/35 Poz + 6% Gel + 10 pps gilsonite | 180 | 35% | 11.00 | 3.82 |
| | | | + 0.25 pps Flocele + 3% salt BWOW | | | | |
| | TAIL | 500' | Premium cmt + 2% CaCl | 150 | 35% | 15.80 | 1.15 |
| | | | + 0.25 pps flocele | | | | |
| | TOP OUT CMT | as required | Premium cmt + 2% CaCl | as req. | | 15.80 | 1.15 |
| PRODUCTION | LEAD | 4,244' | Premium Lite II +0.25 pps | 310 | 10% | 11.00 | 3.38 |
| | | | celloflake + 5 pps gilsonite + 10% gel | | | | |
| | | | + 0.5% extender | | | | |
| | TAIL | 5,580' | 50/50 Poz/G + 10% salt + 2% gel | 1,080 | 10% | 14.30 | 1.31 |
| | | | + 0.1% R-3 | | | | |

*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

## FLOAT EQUIPMENT & CENTRALIZERS

| | |
|---|---|
| SURFACE | Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe |
| PRODUCTION | Float shoe, 1 jt, float collar. No centralizers will be used. |

## ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals.

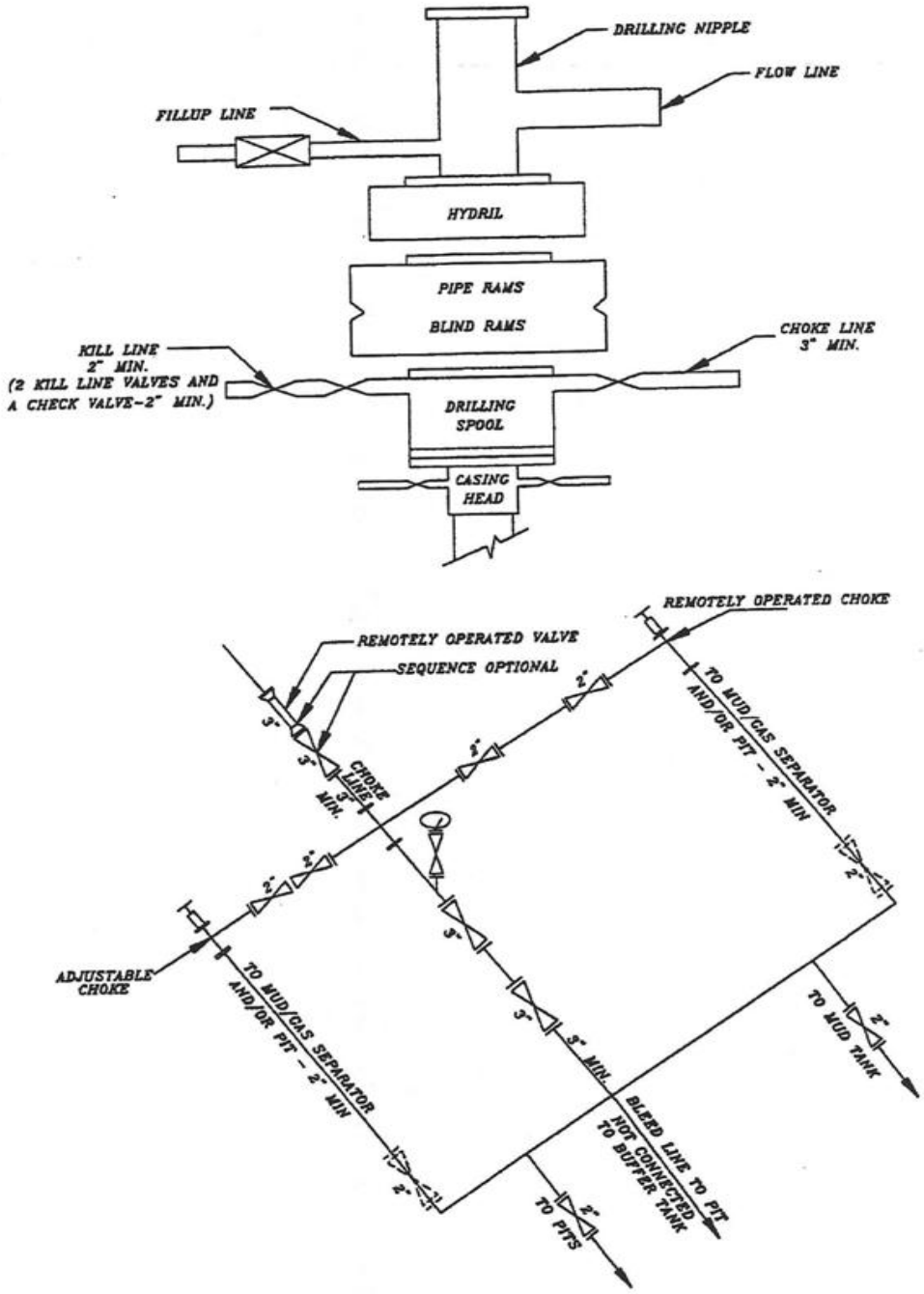
Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

**DRILLING ENGINEER:** _____ **DATE:** _____
John Huycke / Emile Goodwin

**DRILLING SUPERINTENDENT:** _____ **DATE:** _____
John Merkel / Lovel Young

'APIWellNo:43047513640000'

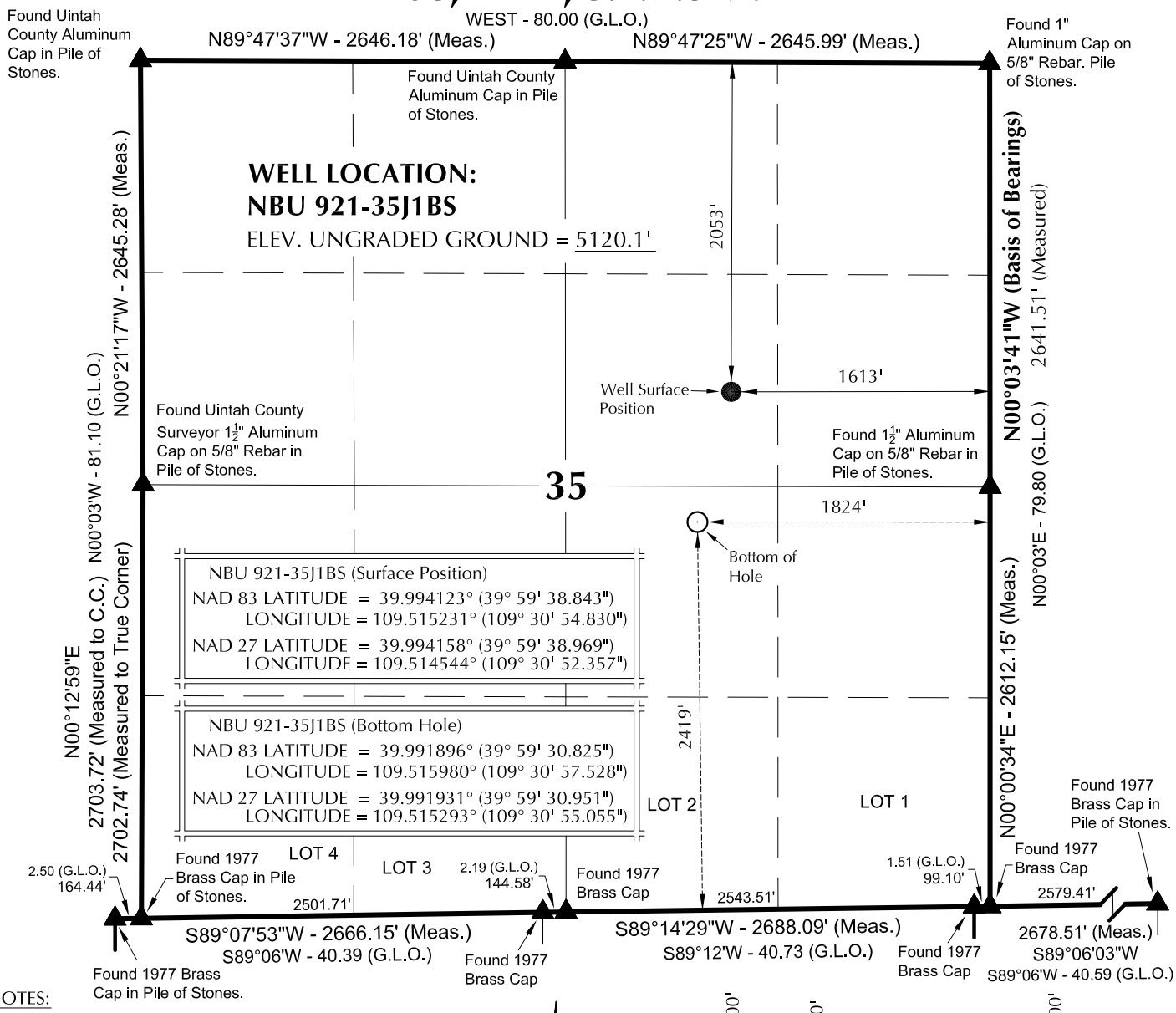
# EXHIBIT A
# NBU 921-35J1BS




**SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK**

'APIWellNo:43047513640000'

# T9S, R21E, S.L.B.&M.




NOTES:

▲ = Section Corners Located

1. Well footages are measured at right angles to the Section Lines.
2. G.L.O. distances are shown in feet or chains. 1 chain = 66 feet.
3. The Bottom of hole bears S14°32'32"W 838.28' from the Surface Position.
4. Bearings are based on Global Positioning Satellite observations.
5. Basis of elevation is Tri-Sta "Two Water" located in the NW ¼ of Section 1, T10S, R21E, S.L.B.&M. The elevation of this Tri-Sta is shown on the Big Pack Mtn NE 7.5 Min. Quadrangle as being 5238'.

1000' 500' 0' 1000'

SCALE

## SURVEYOR'S CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

PROFESSIONAL LAND SURVEYOR No.6028691 JOHN R SLAUGH STATE OF UTAH

PROFESSIONAL LAND SURVEYOR
REGISTRATION No. 6028691
STATE OF UTAH

**Kerr-McGee Oil & Gas Onshore, LP**
1099 18th Street - Denver, Colorado 80202

**WELL PAD: NBU 921-35G**

**NBU 921-35J1BS**
**WELL PLAT**
**2419' FSL, 1824' FEL (Bottom Hole)**
**NW ¼ SE ¼ OF SECTION 35, T9S, R21E, S.L.B.&M., UINTAH COUNTY, UTAH.**

609 CONSULTING, LLC
2155 North Main Street
Sheridan WY 82801
Phone 307-674-0609
Fax 307-674-0182

**TIMBERLINE** (435) 789-1365
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

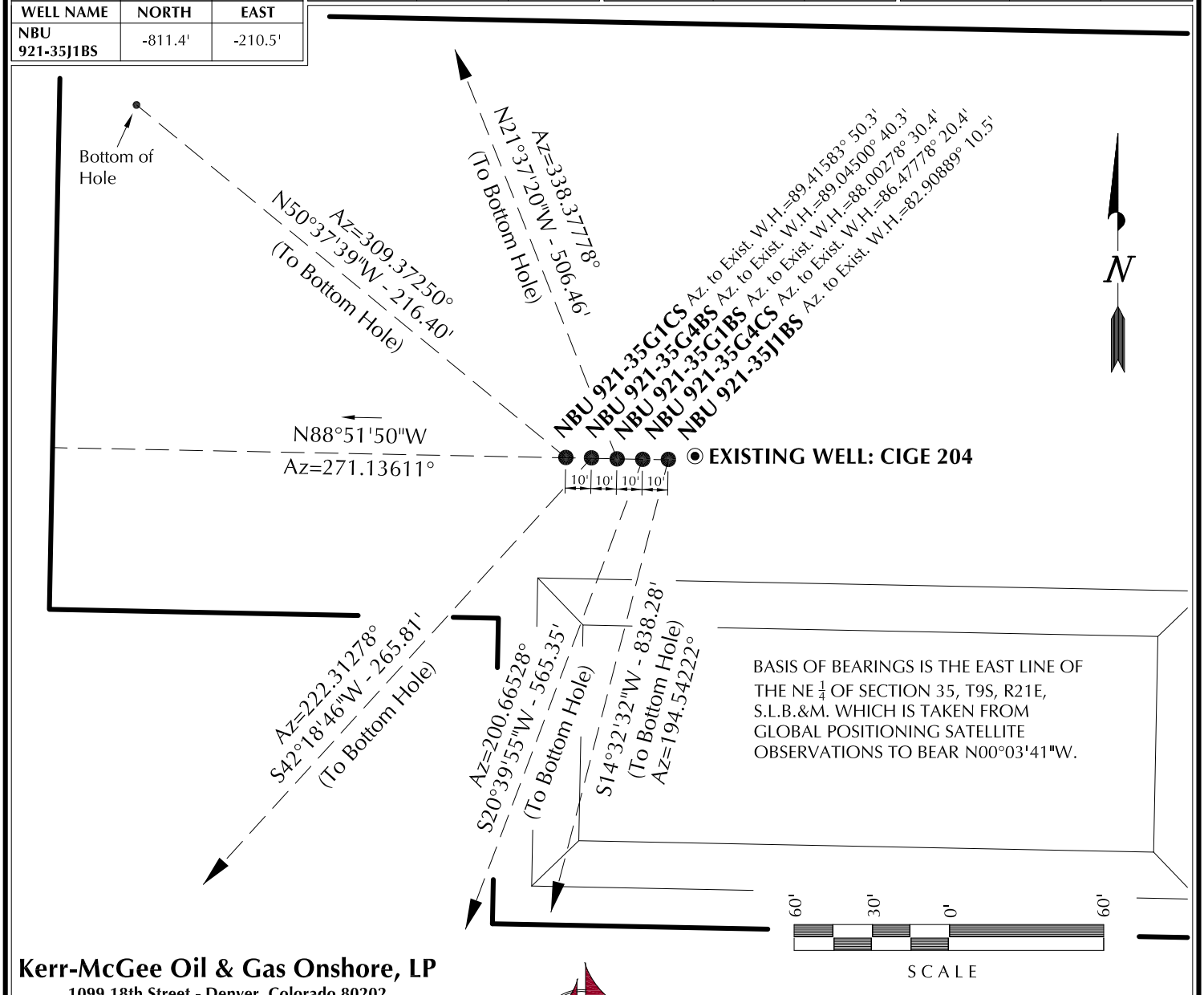
| | | |
|---|---|---|
| DATE SURVEYED: 09-29-10 | SURVEYED BY: M.S.B. | SHEET NO: 5 |
| DATE DRAWN: 10-05-10 | DRAWN BY: M.W.W. | 5 OF 17 |
| SCALE: 1" = 1000' | Date Last Revised: | |

'APIWellNo:43047513640000'

| WELL NAME | SURFACE POSITION | | | | | BOTTOM HOLE | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | NAD83 | | NAD27 | | | NAD83 | | NAD27 | | |
| | LATITUDE | LONGITUDE | LATITUDE | LONGITUDE | FOOTAGES | LATITUDE | LONGITUDE | LATITUDE | LONGITUDE | FOOTAGES |
| NBU 921-35G1CS | 39°59'38.850" 39.994125° | 109°30'55.343" 109.515373° | 39°59'38.976" 39.994160° | 109°30'52.870" 109.514686° | 2053' FNL 1653' FEL | 39°59'40.205" 39.994502° | 109°30'57.493" 109.515970° | 39°59'40.332" 39.994537° | 109°30'55.020" 109.515283° | 1916' FNL 1820' FEL |
| NBU 921-35G4BS | 39°59'38.849" 39.994125° | 109°30'55.215" 109.515337° | 39°59'38.975" 39.994160° | 109°30'52.742" 109.514650° | 2053' FNL 1643' FEL | 39°59'36.906" 39.993585° | 109°30'57.512" 109.515975° | 39°59'37.032" 39.993620° | 109°30'55.039" 109.515289° | 2250' FNL 1822' FEL |
| NBU 921-35G1BS | 39°59'38.845" 39.994124° | 109°30'55.087" 109.515302° | 39°59'38.971" 39.994159° | 109°30'52.614" 109.514615° | 2053' FNL 1633' FEL | 39°59'43.495" 39.995415° | 109°30'57.487" 109.515969° | 39°59'43.622" 39.995450° | 109°30'55.014" 109.515282° | 1583' FNL 1819' FEL |
| NBU 921-35G4CS | 39°59'38.843" 39.994123° | 109°30'54.959" 109.515266° | 39°59'38.969" 39.994158° | 109°30'52.486" 109.514579° | 2053' FNL 1623' FEL | 39°59'33.616" 39.992671° | 109°30'57.518" 109.515977° | 39°59'33.742" 39.992706° | 109°30'55.044" 109.515290° | 2583' FNL 1823' FEL |
| NBU 921-35J1BS | 39°59'38.843" 39.994123° | 109°30'54.830" 109.515231° | 39°59'38.969" 39.994158° | 109°30'52.357" 109.514544° | 2053' FNL 1613' FEL | 39°59'30.825" 39.991896° | 109°30'57.528" 109.515980° | 39°59'30.951" 39.991931° | 109°30'55.055" 109.515293° | 2419' FSL 1824' FEL |
| CIGE 204 | 39°59'38.855" 39.994127° | 109°30'54.697" 109.515194° | 39°59'38.982" 39.994162° | 109°30'52.224" 109.514507° | 2052' FNL 1603' FEL | | | | | |

**RELATIVE COORDINATES** - From Surface Position to Bottom Hole

| WELL NAME | NORTH | EAST |
|---|---|---|
| NBU 921-35G1CS | 137.3' | -167.3' |
| NBU 921-35G4BS | -196.6' | -178.9' |
| NBU 921-35G1BS | 470.8' | -186.6' |
| NBU 921-35G4CS | -529.0' | -199.5' |
| NBU 921-35J1BS | -811.4' | -210.5' |




**Kerr-McGee Oil & Gas Onshore, LP**
1099 18th Street - Denver, Colorado 80202

## WELL PAD - NBU 921-35G

**WELL PAD INTERFERENCE PLAT**
**WELLS - NBU 921-35G1CS, NBU 921-35G4BS, NBU 921-35G1BS, NBU 921-35G4CS & NBU 921-35J1BS**
**LOCATED IN SECTION 35, T9S, R21E, S.L.B.&M., UINTAH COUNTY, UTAH.**

609 CONSULTING, LLC
2155 North Main Street
Sheridan WY 82801
Phone 307-674-0609
Fax 307-674-0182

**TIMBERLINE** (435) 789-1365
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

| | | |
|---|---|---|
| DATE SURVEYED: 09-29-10 | SURVEYED BY: M.S.B. | SHEET NO: 6 |
| DATE DRAWN: 10-05-10 | DRAWN BY: M.W.W. | 6 OF 17 |
| SCALE: 1" = 60' | Date Last Revised: | |

'APIWellNo:43047513640000'

PLEASE NOTE: LOCATIONS OF PROPOSED PIPELINES DISPLAYED WITHIN THE PAD AREA ARE FOR VISUALIZATION PURPOSES ONLY. ACTUAL LOCATIONS TO BE DETERMINED DURING CONSTRUCTION.

EXISTING ACCESS ROAD

8" GAS LINE
6" (MAX.) LIQUID LINE

TOPSOIL STOCKPILE

RESERVE PIT AND EXCESS CUT STOCKPILE

S20°39'55"W - 565.35' (TO BOTTOM HOLE)

S42°18'46"W - 265.81' (TO BOTTOM HOLE)

N50°37'39"W - 216.40' (TO BOTTOM HOLE)

N21°37'20"W - 506.46' (TO BOTTOM HOLE)

S14°32'32"W - 838.28' (TO BOTTOM HOLE)

EXISTING WELL PAD

DERRICK STAND

ANCHOR

PIPETUBS

PIPERACKS

NBU 921-35G1CS
NBU 921-35G4BS
NBU 921-35G1BS
NBU 921-35G4CS
NBU 921-35J1BS

EXISTING WELL: CIGE 204

RECLAIMED PIT

RESERVE PIT
12' DEPTH
SLOPE 1.5:1

MUD TANK

MUD PUMP

GENERATOR

DIESEL TANK

BOILER

EXISTING METHANOL TANK

EXISTING METER/ SEPARATOR

EXISTING TANKS AND BERM

CUT FILL

MOVE EXISTING SPOILS PILES TO PROPOSED LOCATION

PROPOSED ACCESS ROAD RE-ROUTE

6" GAS LINE
6" (MAX.) LIQUID LINE

EXISTING ACCESS ROAD

5140 5130 5120 5110 5100

# WELL PAD - NBU 921-35G DESIGN SUMMARY

EXISTING GRADE @ CENTER OF WELL PAD = 5120.2'
FINISHED GRADE ELEVATION = 5119.2'
CUT SLOPES = 1.5:1
FILL SLOPES = 1.5:1
TOTAL WELL PAD AREA = 3.96 ACRES
TOTAL DAMAGE AREA = 6.38 ACRES
SHRINKAGE FACTOR = 1.10
SWELL FACTOR = 1.00

**Kerr-McGee Oil & Gas Onshore, LP**
1099 18th Street - Denver, Colorado 80202

## WELL PAD QUANTITIES

TOTAL CUT FOR WELL PAD = 18,871 C.Y.
TOTAL FILL FOR WELL PAD = 18,234 C.Y.
TOPSOIL @ 6" DEPTH = 2,311 C.Y.
EXCESS MATERIAL = 637 C.Y.

## RESERVE PIT QUANTITIES

TOTAL CUT FOR RESERVE PIT
+/- 11,020 CY
RESERVE PIT CAPACITY (2' OF FREEBOARD)
+/- 42,290 BARRELS

WELL PAD - NBU 921-35G

WELL PAD - LOCATION LAYOUT
NBU 921-35G1CS,
NBU 921-35G4BS, NBU 921-35G1BS,
NBU 921-35G4CS & NBU 921-35J1BS
LOCATED IN SECTION 35, T9S, R21E,
S.L.B.&M., UINTAH COUNTY, UTAH

609 CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone 307-674-0609
Fax 307-674-0182

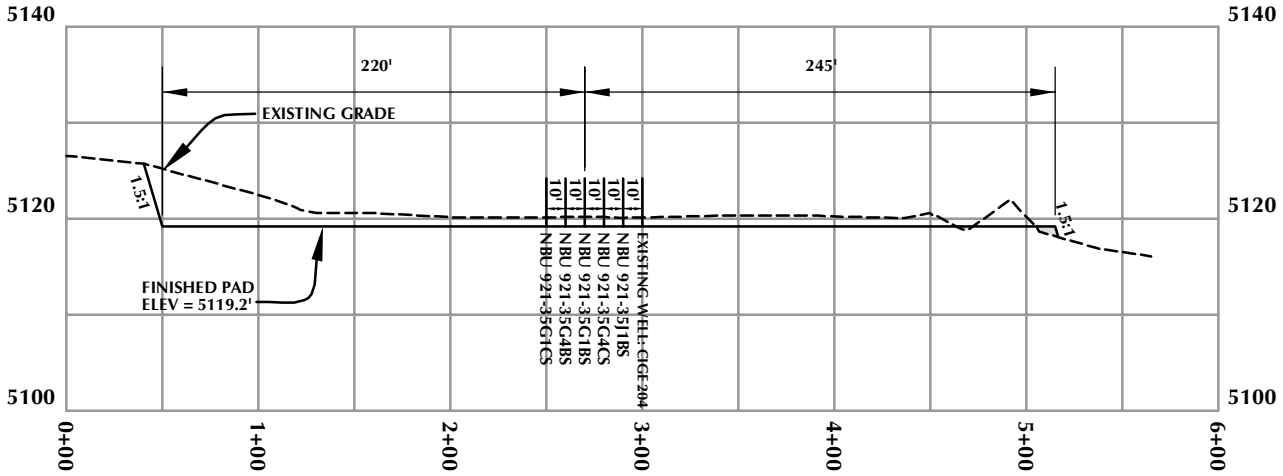
TIMBERLINE (435) 789-1365
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

WELL PAD LEGEND

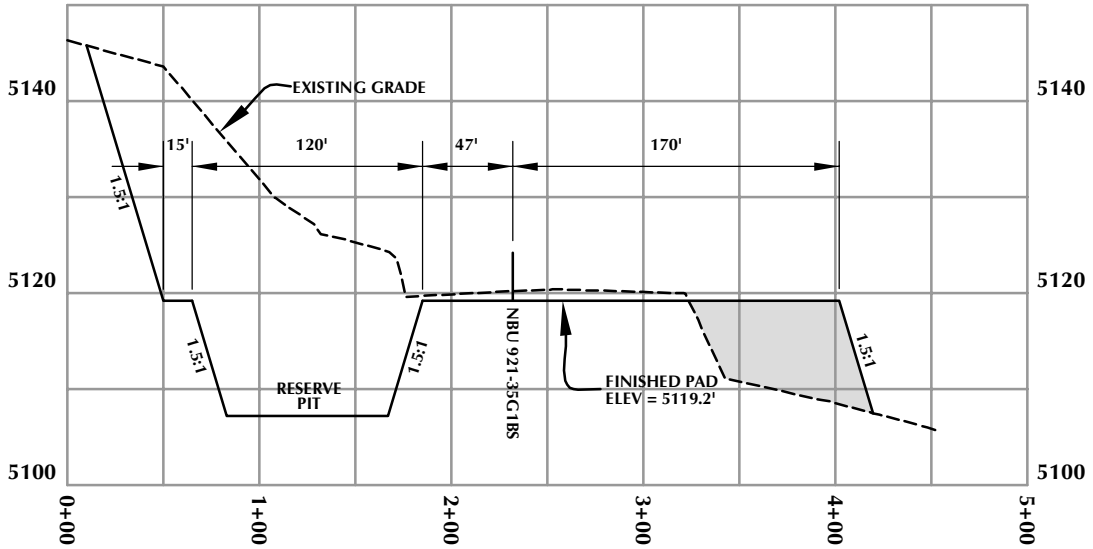
- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- PROPOSED BOTTOM HOLE LOCATION
- EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)
- PPL — PROPOSED PIPELINE
- EPL — EXISTING PIPELINE

HORIZONTAL 0 30 60 1" = 60'
2' CONTOURS

| Scale: 1"=60' | Date: 10/19/10 | SHEET NO: |
|---|---|---|
| REVISED: GRB 12/9/10 | | 7 7 OF 17 |




## CROSS SECTION A-A'




## CROSS SECTION B-B'

**Kerr-McGee Oil & Gas Onshore, LP**
1099 18th Street - Denver, Colorado 80202

**WELL PAD - NBU 921-35G**

**WELL PAD - CROSS SECTIONS**
**NBU 921-35G1CS,**
**NBU 921-35G4BS, NBU 921-35G1BS,**
**NBU 921-35G4CS & NBU 921-35J1BS**
**LOCATED IN SECTION 35, T9S, R21E,**
**S.L.B.&M., UINTAH COUNTY, UTAH**


609
CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone 307-674-0609
Fax 307-674-0182


HORIZONTAL 0 50 100 1" = 100'
VERTICAL 0 10 20 1" = 20'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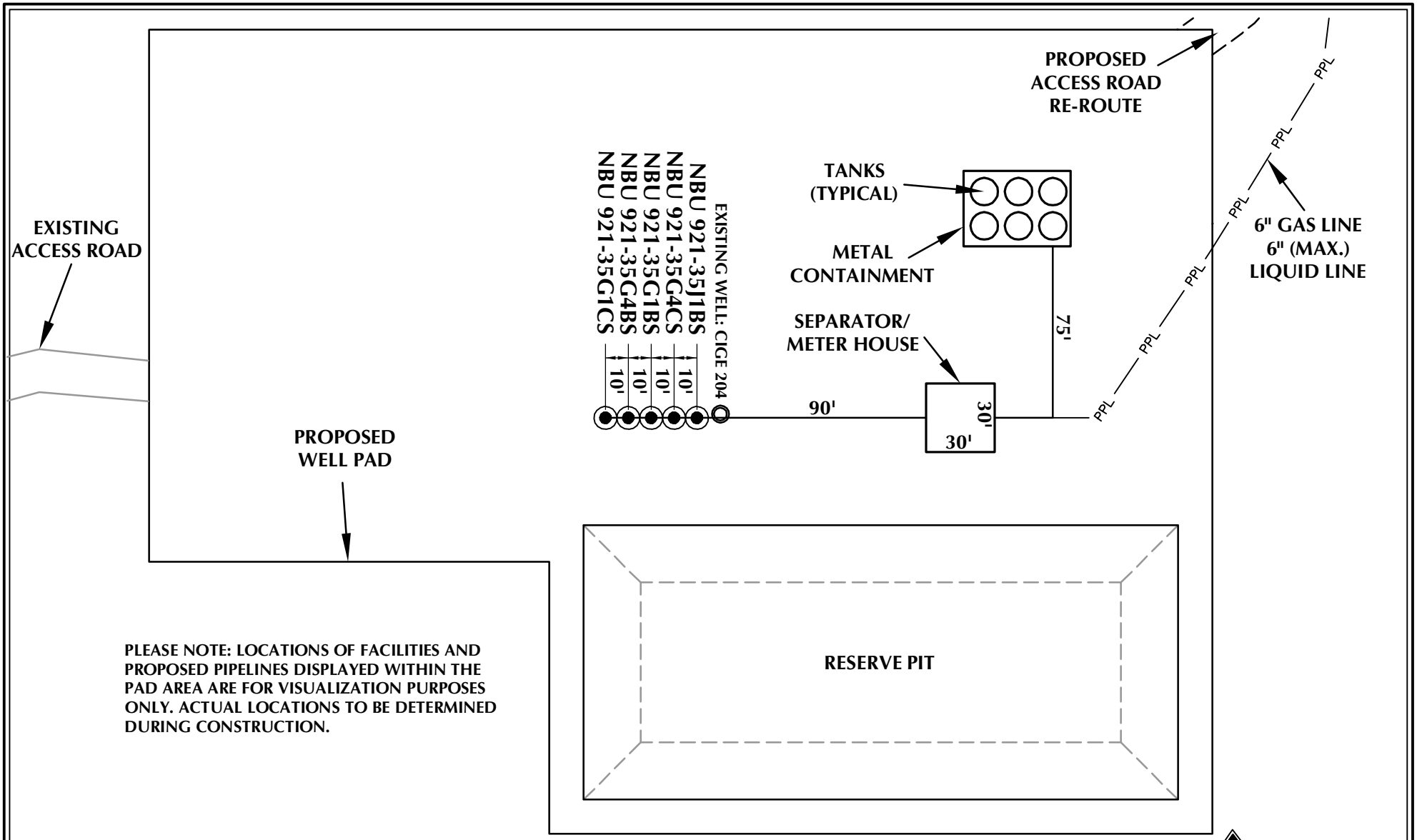
209 NORTH 300 WEST - VERNAL, UTAH 84078


Scale: 1"=100' | Date: 10/15/10 | SHEET NO: 8
REVISED:
8 OF 17

'APIWellNo:43047513640000'
K:\ANADARKO\2010_53_NBU_FOCUS_SEC_921-35\DWG\NBU 921-35G\NBU_921-35G_20100930.dwg, 10/14/2010 4:17:05 PM




PLEASE NOTE: LOCATIONS OF FACILITIES AND PROPOSED PIPELINES DISPLAYED WITHIN THE PAD AREA ARE FOR VISUALIZATION PURPOSES ONLY. ACTUAL LOCATIONS TO BE DETERMINED DURING CONSTRUCTION.

**Kerr-McGee Oil & Gas Onshore, LP**
1099 18th Street - Denver, Colorado 80202

**WELL PAD - NBU 921-35G**

**WELL PAD - FACILITIES DIAGRAM**
**NBU 921-35G1CS,**
**NBU 921-35G4BS, NBU 921-35G1BS,**
**NBU 921-35G4CS & NBU 921-35J1BS**
**LOCATED IN SECTION 35, T9S, R21E,**
**S.L.B.&M., UINTAH COUNTY, UTAH**


609 CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone 307-674-0609
Fax 307-674-0182


**WELL PAD LEGEND**

- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- PPL — PROPOSED PIPELINE
- EPL — EXISTING PIPELINE

HORIZONTAL 0 30' 60' 1" = 60'


TIMBERLINE ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078
(435) 789-1365


| Scale: | 1"=60' | Date: | 10/19/10 | SHEET NO: |
|---|---|---|---|---|
| REVISED: | | TAR 12/9/10 | | 9 OF 17 |

'APIWellNo:43047513640000'
K:\ANADARKO\2010_53_NBU_FOCUS_SEC_921-35\DWG\NBU 921-35G\NBU_921-35G_20100930.dwg, 12/7/2010 1:11:12 PM, jake

'APIWellNo:43047513640000'

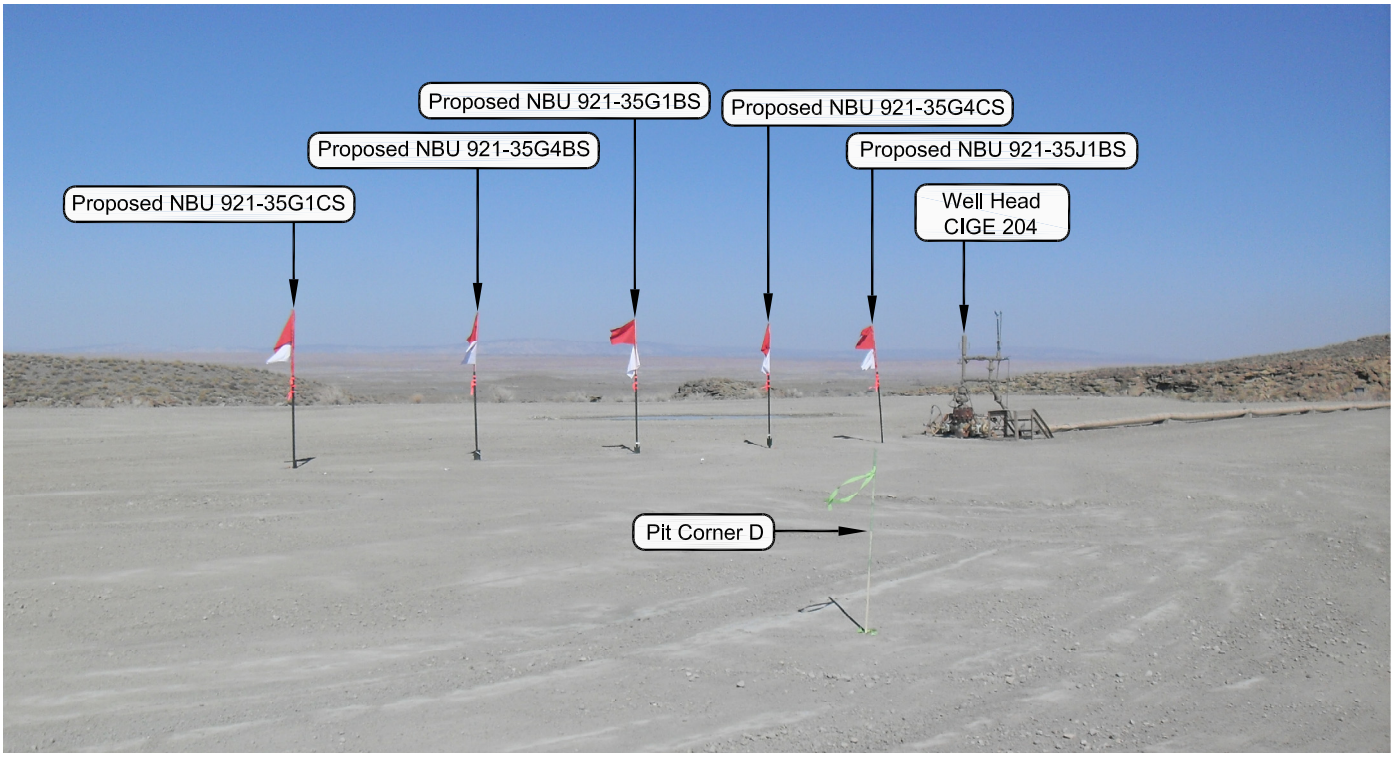



**PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKE** **CAMERA ANGLE: NORTHEASTERLY**

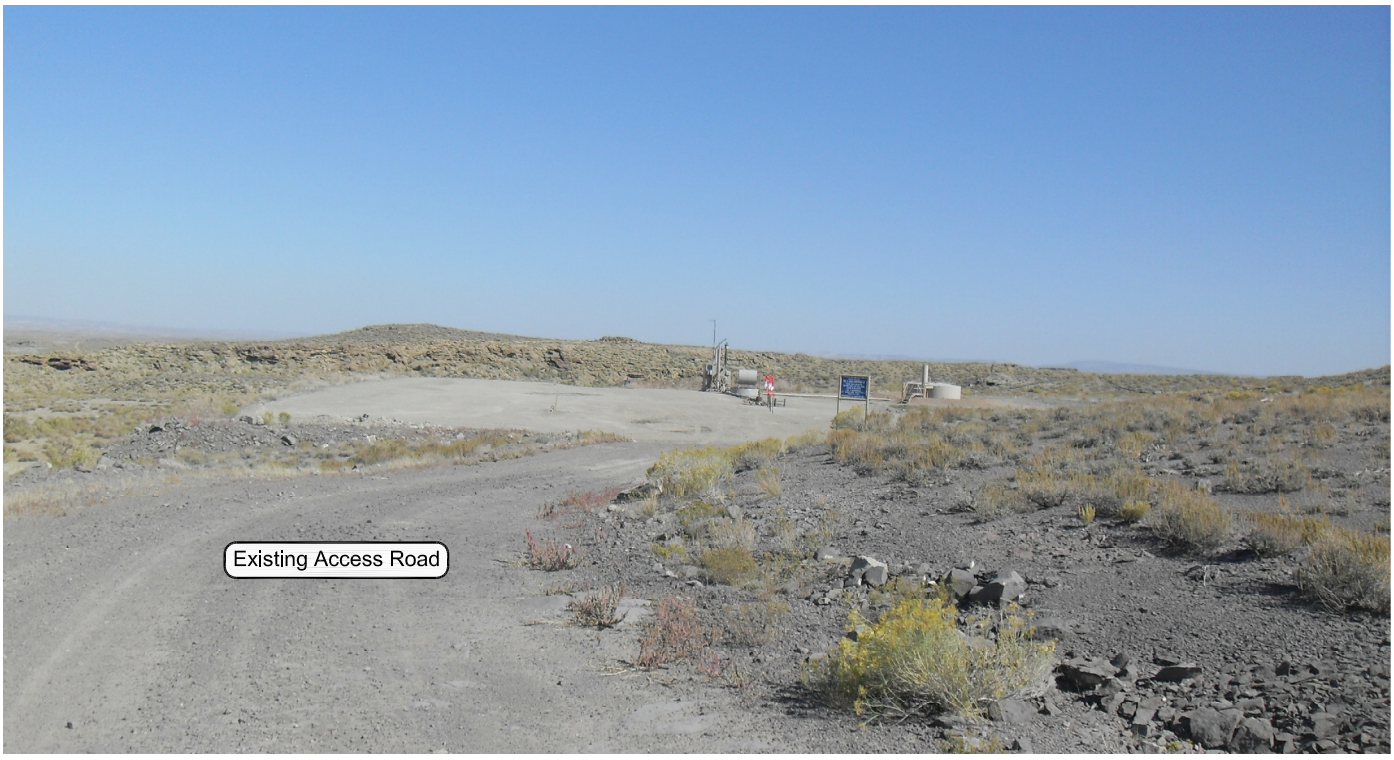



**PHOTO VIEW: FROM EXISTING ACCESS ROAD** **CAMERA ANGLE: EASTERLY**

**Kerr-McGee Oil & Gas Onshore, LP**
1099 18th Street - Denver, Colorado 80202

**WELL PAD - NBU 921-35G**

**LOCATION PHOTOS**
**NBU 921-35G1CS,**
**NBU 921-35G4BS, NBU 921-35G1BS,**
**NBU 921-35G4CS & NBU 921-35J1BS**
**LOCATED IN SECTION 35, T9S, R21E,**
**S.L.B.&M., UINTAH COUNTY, UTAH.**

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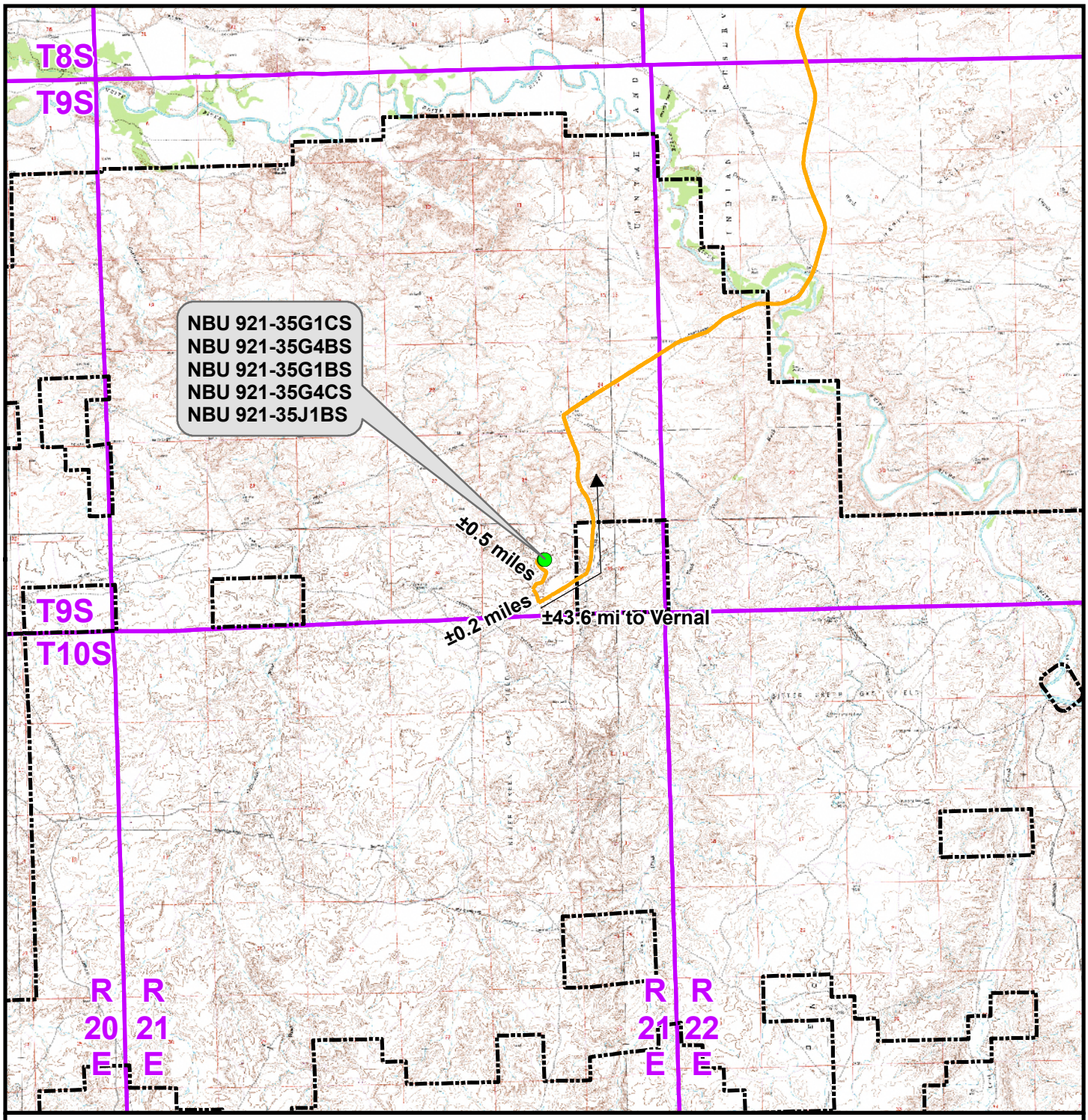
209 NORTH 300 WEST - VERNAL, UTAH 84078

| | | |
|---|---|---|
| DATE PHOTOS TAKEN: 09-29-10 | PHOTOS TAKEN BY: M.S.B. | SHEET NO: 10 |
| DATE DRAWN: 10-05-10 | DRAWN BY: M.W.W. | 10 OF 17 |
| Date Last Revised: | | |

'APIWellNo:43047513640000'




**Legend**

Distance From Well Pad - NBU 921-35G To Unit Boundary: ±1,613ft

Proposed Well Location

Natural Buttes Unit Boundary

Access Route - Proposed


**Kerr-McGee Oil & Gas Onshore, LP**
1099 18th Street, Denver, Colorado 80202


**WELL PAD - NBU 921-35G**

TOPO A
NBU 921-35G1CS,
NBU 921-35G4BS, NBU 921-35G1BS,
NBU 921-35G4CS & NBU 921-35J1BS
LOCATED IN SECTION 35, T9S, R21E,
S.L.B.&M., UINTAH COUNTY, UTAH


609 CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182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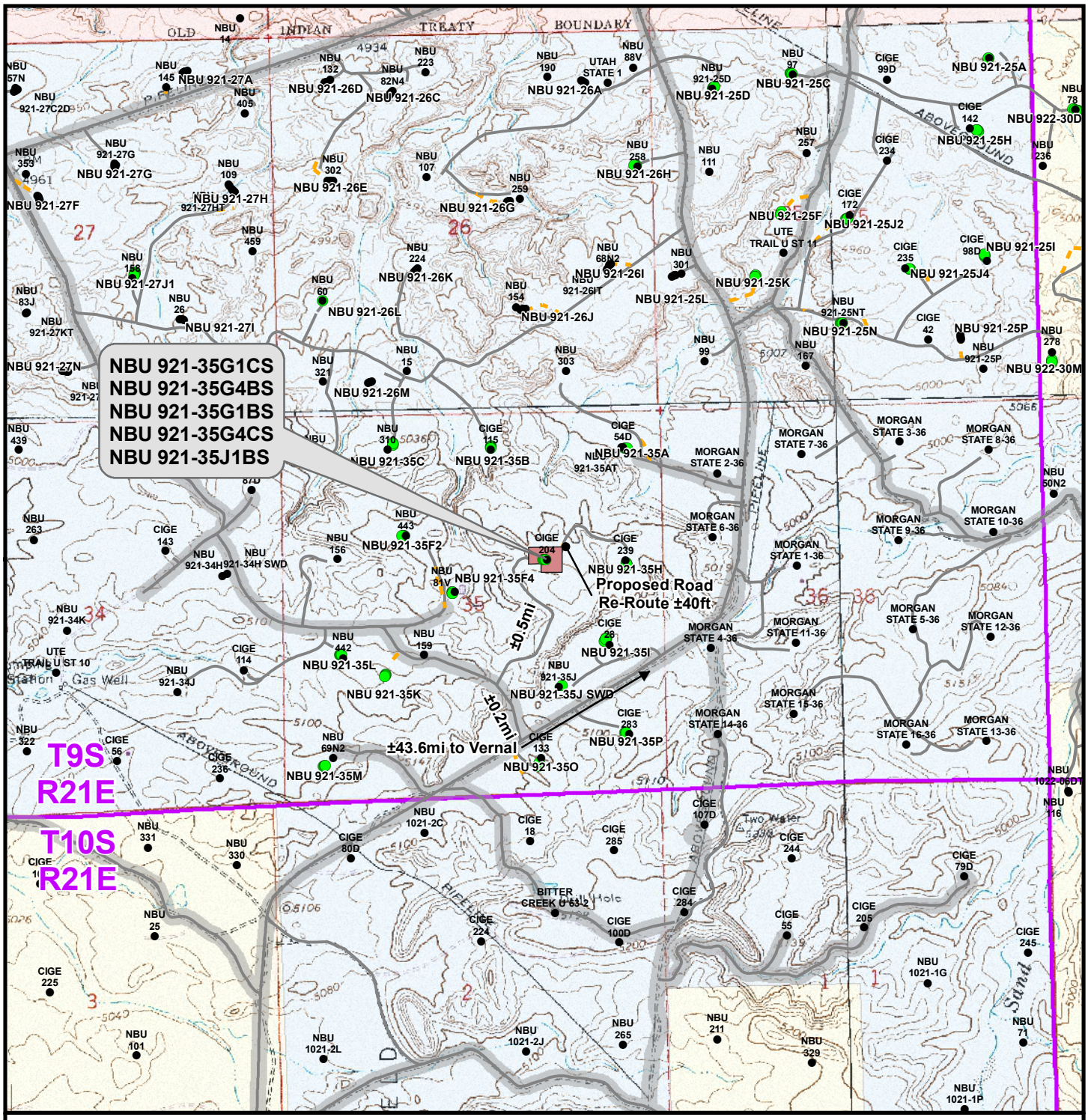
| | | | |
|---|---|---|---|
| Scale: 1:100,000 | NAD83 USP Central | Sheet No: 11 | 11 of 17 |
| Drawn: CPS | Date: 19 Oct 2010 | | |
| Revised: | Date: | | |

'APIWellNo:43047513640000'




**Legend**

Well - Proposed | Well Pad | Road - Proposed | County Road | Bureau of Land Management | State
Well - Existing | Road - Existing | Indian Reservation | Private

Total Proposed Road Re-Route Length: ±40ft


**Kerr-McGee Oil & Gas Onshore, LP**
1099 18th Street, Denver, Colorado 80202


## WELL PAD - NBU 921-35G

**TOPO B**
NBU 921-35G1CS,
NBU 921-35G4BS, NBU 921-35G1BS,
NBU 921-35G4CS & NBU 921-35J1BS
LOCATED IN SECTION 35, T9S, R21E,
S.L.B.&M., UINTAH COUNTY, UTAH


609 CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182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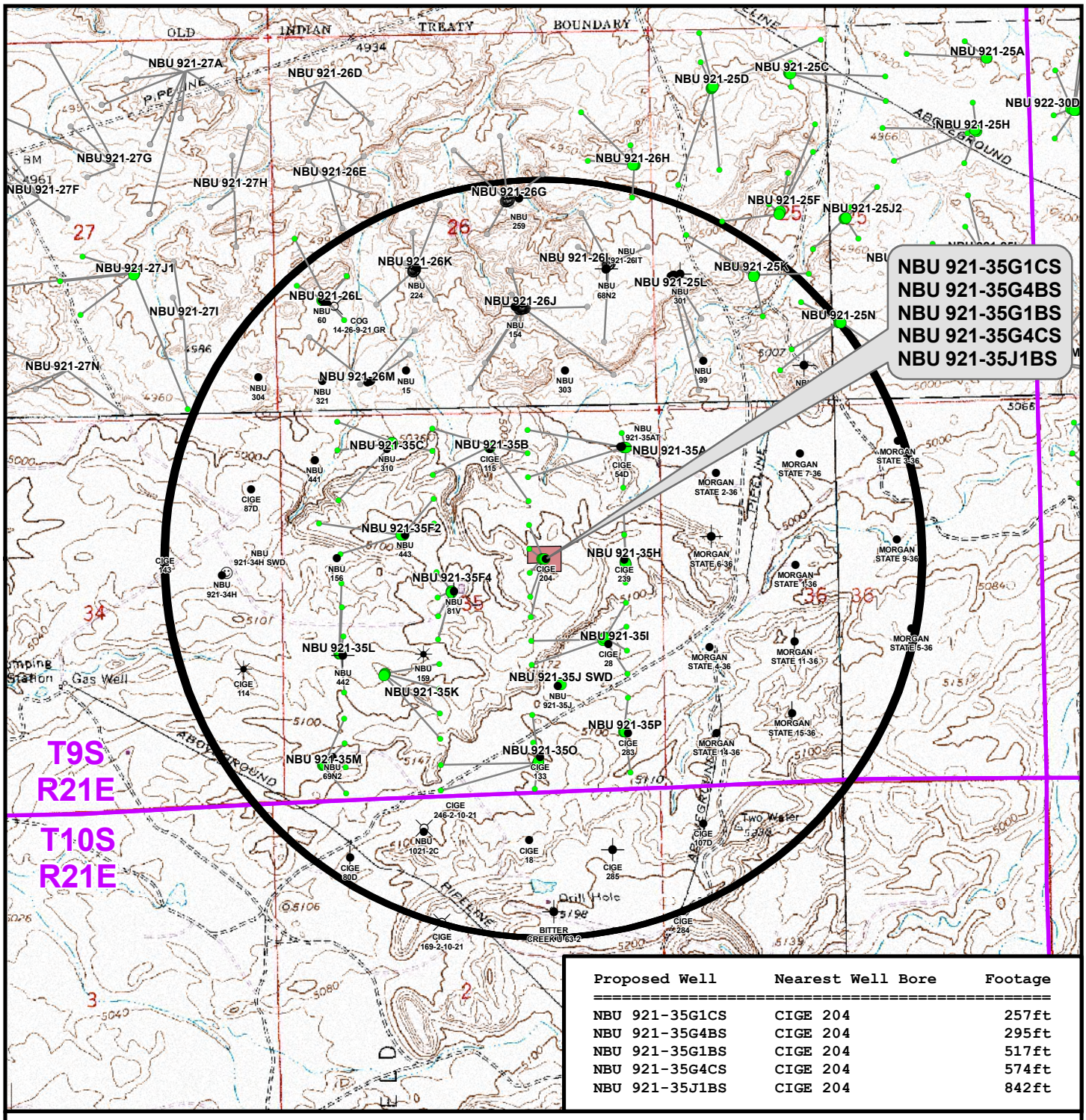
| | | | |
|---|---|---|---|
| Scale: 1" = 2,000ft | NAD83 USP Central | Sheet No: 12 | 12 of 17 |
| Drawn: KGS | Date: 19 Oct 2010 | | |
| Revised: TL | Date: 9 Dec 2010 | | |

'APIWellNo:43047513640000'




| Proposed Well | Nearest Well Bore | Footage |
|---|---|---|
| NBU 921-35G1CS | CIGE 204 | 257ft |
| NBU 921-35G4BS | CIGE 204 | 295ft |
| NBU 921-35G1BS | CIGE 204 | 517ft |
| NBU 921-35G4CS | CIGE 204 | 574ft |
| NBU 921-35J1BS | CIGE 204 | 842ft |

Well locations derived from State of Utah, Dept. of Natural Resources, Division of Oil, Gas and Mining

**Legend**

- Well - Proposed
- Well Path
- Bottom Hole - Proposed
- Bottom Hole - Existing
- Well Pad
- Well - 1 Mile Radius

- Producing
- Active
- Spudded (Drilling commenced: Not yet completed)
- Approved permit (APD); not yet spudded
- New Permit (Not yet approved or drilled)
- Inactive
- Drilling Operations Suspended
- Temporarily-Abandoned
- Shut-In
- Plugged and Abandoned
- Location Abandoned
- Dry hole marker, buried
- Returned APD (Unapproved)


**Kerr-McGee Oil & Gas Onshore, LP**
1099 18th Street, Denver, Colorado 80202


## WELL PAD - NBU 921-35G

**TOPO C**
**NBU 921-35G1CS,**
**NBU 921-35G4BS, NBU 921-35G1BS,**
**NBU 921-35G4CS & NBU 921-35J1BS**
**LOCATED IN SECTION 35, T9S, R21E,**
**S.L.B.&M., UINTAH COUNTY, UTAH**


609 CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182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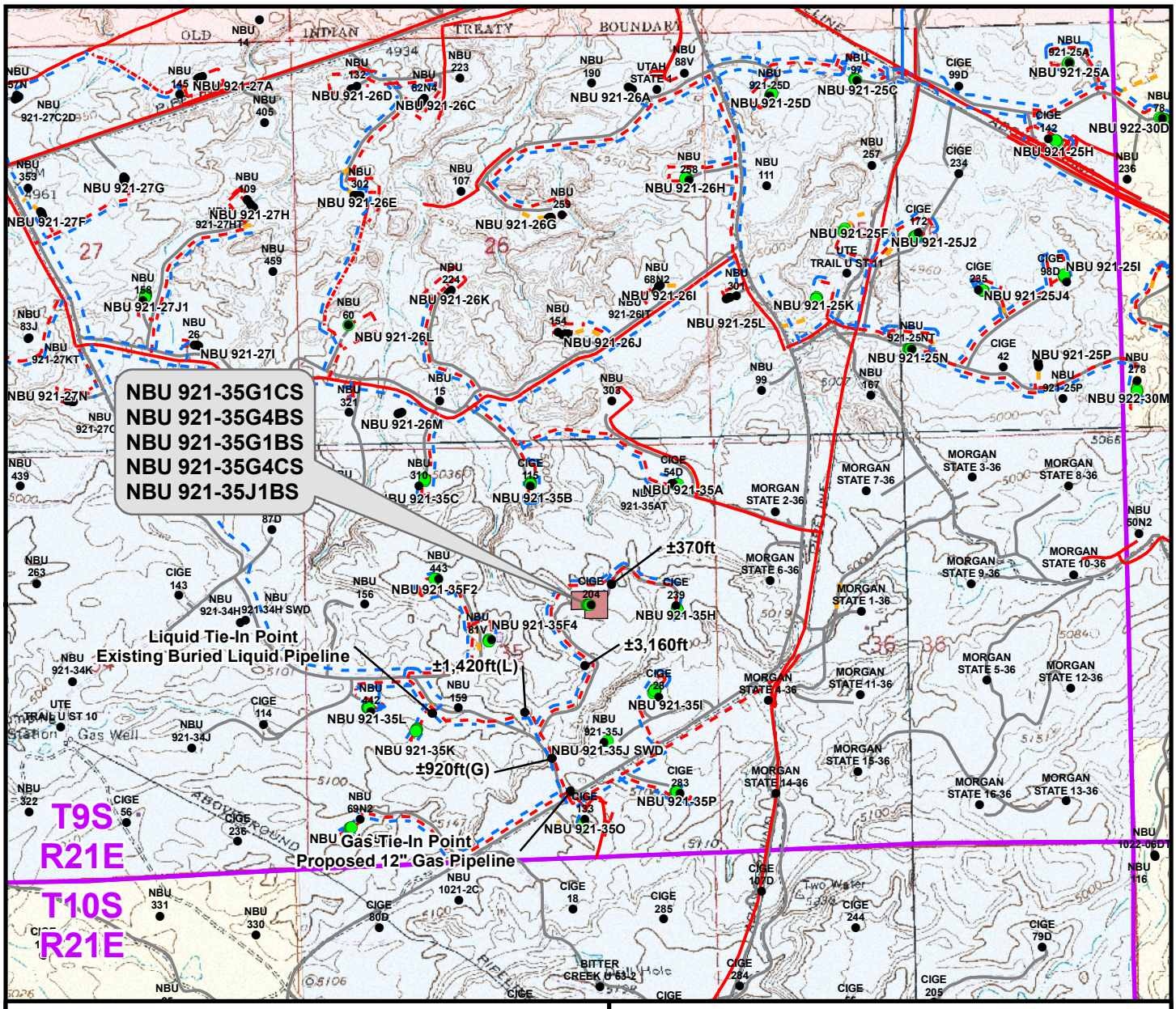
| | | | |
|---|---|---|---|
| Scale: 1" = 2,000ft | NAD83 USP Central | Sheet No: 13 | 13 of 17 |
| Drawn: CPS | Date: 19 Oct 2010 | | |
| Revised: TL | Date: 9 Dec 2010 | | |

'APIWellNo:43047513640000'




| Proposed Liquid Pipeline | Length |
|---|---|
| Proposed 6" (Max.) (Meter House to Edge of Pad) | ±150ft |
| Proposed 6" (Max.) (Edge of Pad to 35H Intersection) | ±370ft |
| Proposed 6" (Max.) (35H Intersection to 35M Intersection) | ±3,160ft |
| Proposed 6" (Max.) (35M Intersection to Existing Buried Pipeline) | ±1,420ft |
| TOTAL PROPOSED LIQUID PIPELINE = | ±5,100ft |

| Proposed Gas Pipeline | Length |
|---|---|
| Proposed 6" (Meter House to Edge of Pad) | ±150ft |
| Proposed 6" (Edge of Pad to 35H Intersection) | ±370ft |
| Proposed 8" (35H Intersection to 35K Intersection) | ±3,160ft |
| Proposed 12" (35K Intersection to 35M Intersection) | ±920ft |
| TOTAL PROPOSED GAS PIPELINE = | ±4,600ft |

**Legend**

- Well - Proposed
- Well - Existing
- Well Pad
- Gas Pipeline - Proposed
- Gas Pipeline - To Be Upgraded
- Gas Pipeline - Existing
- Liquid Pipeline - Proposed
- Liquid Pipeline - To Be Upgraded
- Liquid Pipeline - Existing
- Road - Proposed
- Road - Existing
- Bureau of Land Management
- Indian Reservation
- State
- Private


**Kerr-McGee Oil & Gas Onshore, LP**
1099 18th Street, Denver, Colorado 80202


## WELL PAD - NBU 921-35G

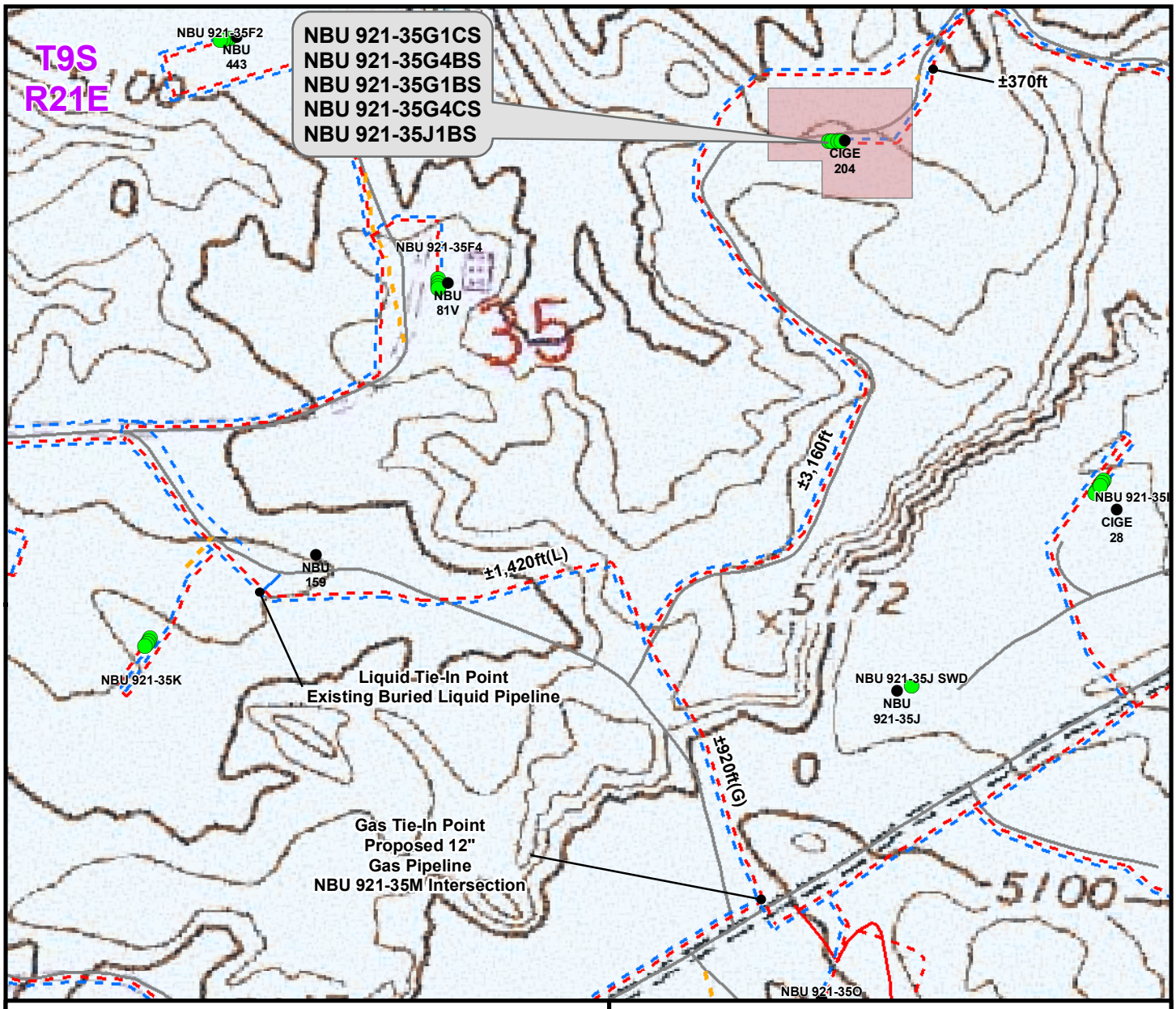
TOPO D
NBU 921-35G1CS,
NBU 921-35G4BS, NBU 921-35G1BS,
NBU 921-35G4CS & NBU 921-35J1BS
LOCATED IN SECTION 35, T9S, R21E,
S.L.B.&M., UINTAH COUNTY, UTAH


609 CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182


N

| Scale: 1" = 2,000ft | NAD83 USP Central | Sheet No: 14 of 17 |
|---|---|---|
| Drawn: CPS | Date: 19 Oct 2010 | |
| Revised: TL | Date: 9 Dec 2010 | |

'APIWellNo:43047513640000'




| Proposed Liquid Pipeline | Length |
|---|---|
| Proposed 6" (Max.) (Meter House to Edge of Pad) | ±150ft |
| Proposed 6" (Max.) (Edge of Pad to 35H Intersection) | ±370ft |
| Proposed 6" (Max.) (35H Intersection to 35M Intersection) | ±3,160ft |
| Proposed 6" (Max.) (35M Intersection to Existing Buried Pipeline) | ±1,420ft |
| TOTAL PROPOSED LIQUID PIPELINE = | ±5,100ft |

| Proposed Gas Pipeline | Length |
|---|---|
| Proposed 6" (Meter House to Edge of Pad) | ±150ft |
| Proposed 6" (Edge of Pad to 35H Intersection) | ±370ft |
| Proposed 8" (35H Intersection to 35K Intersection) | ±3,160ft |
| Proposed 12" (35K Intersection to 35M Intersection) | ±920ft |
| TOTAL PROPOSED GAS PIPELINE = | ±4,600ft |

**Legend**

Well - Proposed; Well - Existing; Well Pad; Gas Pipeline - Proposed; Gas Pipeline - To Be Upgraded; Gas Pipeline - Existing; Liquid Pipeline - Proposed; Liquid Pipeline - To Be Upgraded; Liquid Pipeline - Existing; Road - Proposed; Road - Existing; Bureau of Land Management; Indian Reservation; State; Private


**Kerr-McGee Oil & Gas Onshore, LP**
1099 18th Street, Denver, Colorado 80202


## WELL PAD - NBU 921-35G

TOPO D2 (PAD & PIPELINE DETAIL)
NBU 921-35G1CS,
NBU 921-35G4BS, NBU 921-35G1BS,
NBU 921-35G4CS & NBU 921-35J1BS
LOCATED IN SECTION 35, T9S, R21E,
S.L.B.&M., UINTAH COUNTY, UTAH


609 CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
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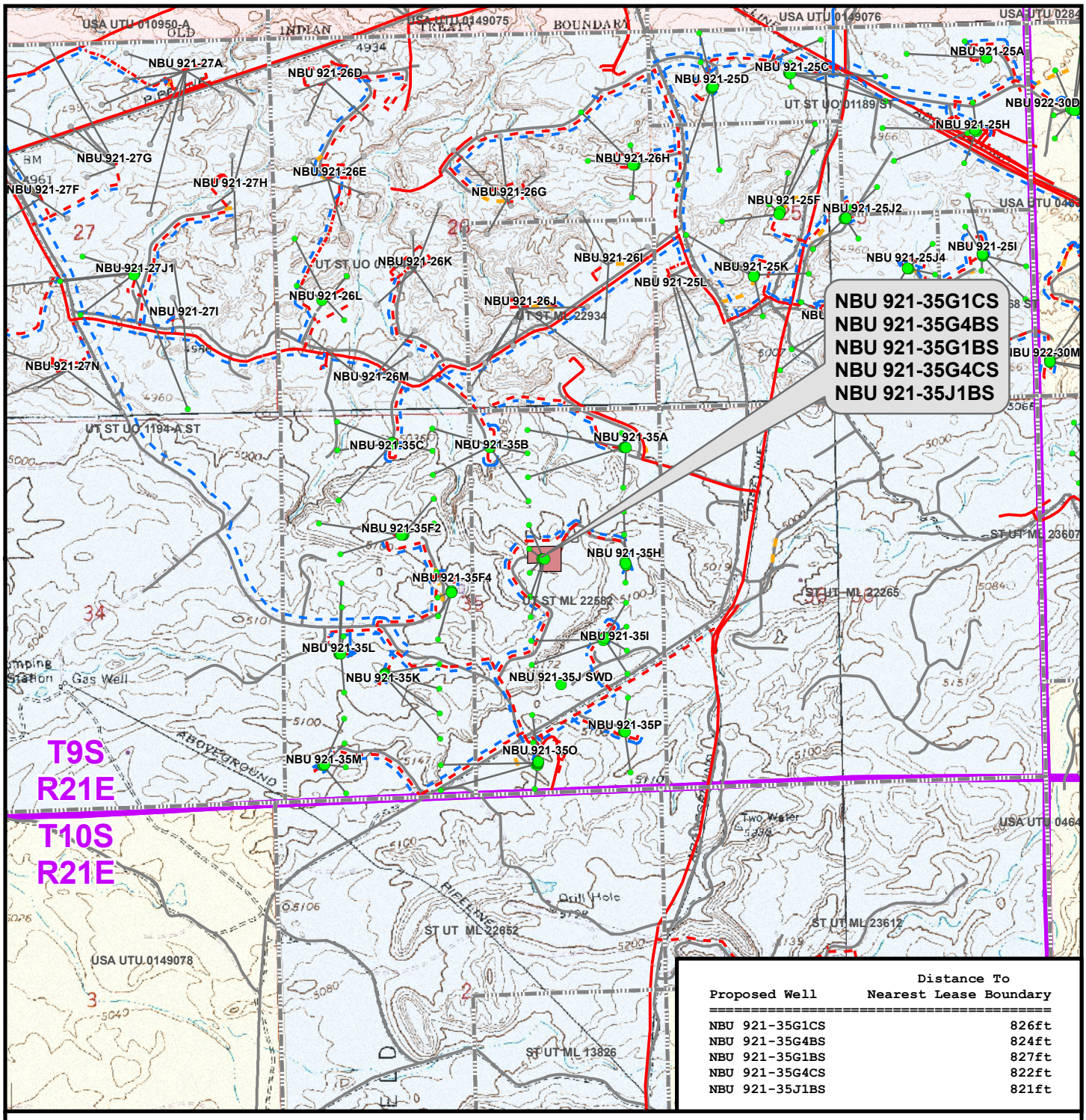
| Scale: 1" = 500ft | NAD83 USP Central | Sheet No: 15 of 17 |
|---|---|---|
| Drawn: CPS | Date: 19 Oct 2010 | |
| Revised: TL | Date: 9 Dec 2010 | |

'APIWellNo:43047513640000'




| Proposed Well | Distance To Nearest Lease Boundary |
|---|---|
| NBU 921-35G1CS | 826ft |
| NBU 921-35G4BS | 824ft |
| NBU 921-35G1BS | 827ft |
| NBU 921-35G4CS | 822ft |
| NBU 921-35J1BS | 821ft |

**Legend**

- Well - Proposed
- Bottom Hole - Proposed
- Bottom Hole - Existing
- Well Path
- Well Pad
- Lease Boundary
- Gas Pipeline - Proposed
- Gas Pipeline - To Be Upgraded
- Gas Pipeline - Existing
- Liquid Pipeline - Proposed
- Liquid Pipeline - To Be Upgraded
- Liquid Pipeline - Existing
- Road - Proposed
- Road - Existing
- Bureau of Land Management
- Indian Reservation
- State
- Private


**Kerr-McGee Oil & Gas Onshore, LP**
1099 18th Street, Denver, Colorado 80202


# WELL PAD - NBU 921-35G

**TOPO E**
**NBU 921-35G1CS,**
**NBU 921-35G4BS, NBU 921-35G1BS,**
**NBU 921-35G4CS & NBU 921-35J1BS**
**LOCATED IN SECTION 35, T9S, R21E,**
**S.L.B.&M., UINTAH COUNTY, UTAH**


609 CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182


N

| | | | |
|---|---|---|---|
| Scale: 1" = 2,000ft | NAD83 USP Central | Sheet No: | |
| Drawn: CPS | Date: 19 Oct 2010 | 16 | 16 of 17 |
| Revised: TL | Date: 9 Dec 2010 | | |

**Kerr-McGee Oil & Gas Onshore, LP**
**WELL PAD – NBU 921-35G**
**WELLS – NBU 921-35G1CS, NBU 921-35G4BS,**
**NBU 921-35G1BS, NBU 921-35G4CS & NBU 921-35J1BS**
**Section 35, T9S, R21E, S.L.B.&M.**

From the intersection of U.S. Highway 40 and 500 East Street in Vernal, Utah, proceed in an easterly then southerly direction along U.S. Highway 40 approximately 3.3 miles to the junction of State Highway 45. Exit right and proceed in a southerly direction along State Highway 45 approximately 20.2 miles to the junction of the Glen Bench Road (County B Road 3260). Exit right and proceed in a southwesterly direction along the Glen Bench Road approximately 20.1 miles to a Class D County Road to the northwest. Exit right and proceed in a northwesterly direction along the Class D County Road approximately 0.2 miles to a service road to the northeast. Exit right and proceed in a northeasterly direction along the service road approximately 0.5 miles to the proposed well pad.

Total distance from Vernal, Utah to the proposed well location is approximately 44.3 miles in a southerly direction.

'APIWellNo:43047513640000'

Scientific Drilling
Rocky Mountain Operations

**Project:** Uintah County, UT UTM12
**Site:** NBU 921-35G Pad
**Well:** NBU 921-35J1BS
**Wellbore:** OH
**Design:** PLAN #1

Anadarko Petroleum Corporation

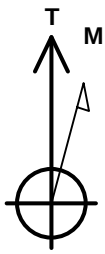
**WELL DETAILS: NBU 921-35J1BS**

GL 5119' & KB 14' @ 5133.00ft (ASSUMED)

| +N/-S | +E/-W | Northing | Easting | Latitude | Longitude |
|---|---|---|---|---|---|
| 0.00 | 0.00 | 14527383.91 | 2056474.61 | 39° 59' 38.969 N | 109° 30' 52.358 W |

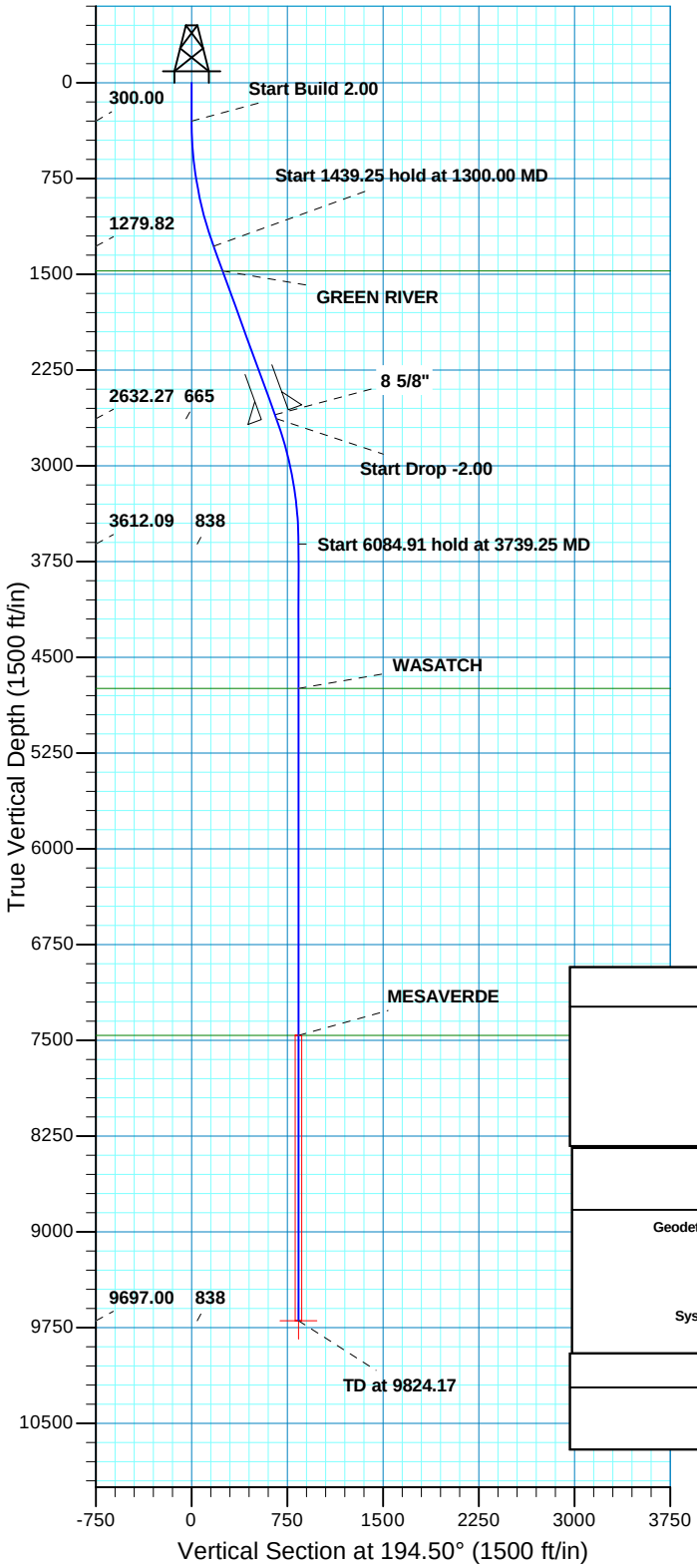
**DESIGN TARGET DETAILS**

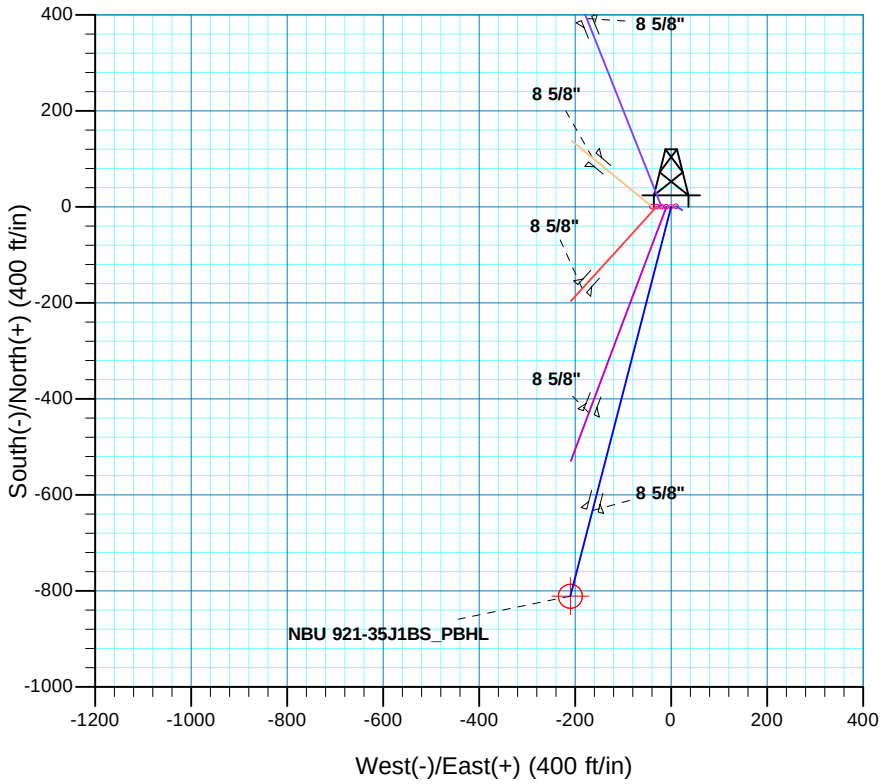
| Name | TVD | +N/-S | +E/-W | Northing | Easting | Latitude | Longitude | Shape |
|---|---|---|---|---|---|---|---|---|
| PBHL | 9697.00 | -811.09 | -209.83 | 14526569.44 | 2056278.33 | 39° 59' 30.952 N | 109° 30' 55.055 W | Circle (Radius: 25.00) |
| | - plan hits target center | | | | | | | |




Azimuths to True North
Magnetic North: 11.16°

Magnetic Field
Strength: 52385.3snT
Dip Angle: 65.88°
Date: 10/28/2010
Model: IGRF2010




**SECTION DETAILS**

| MD | Inc | Azi | TVD | +N/-S | +E/-W | Dleg | TFace | VSect | |
|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 300.00 | 0.00 | 0.00 | 300.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1300.00 | 20.00 | 194.50 | 1279.82 | -167.26 | -43.27 | 2.00 | 194.50 | 172.77 | |
| 2739.25 | 20.00 | 194.50 | 2632.27 | -643.82 | -166.56 | 0.00 | 0.00 | 665.02 | |
| 3739.25 | 0.00 | 0.00 | 3612.09 | -811.09 | -209.83 | 2.00 | 180.00 | 837.79 | |
| 9824.17 | 0.00 | 0.00 | 9697.00 | -811.09 | -209.83 | 0.00 | 0.00 | 837.79 | NBU 921-35J1BS_PBHL |

**PROJECT DETAILS: Uintah County, UT UTM12**

| | |
|---|---|
| Geodetic System: | Universal Transverse Mercator (US Survey Feet) |
| Datum: | NAD 1927 - Western US |
| Ellipsoid: | Clarke 1866 |
| Zone: | Zone 12N (114 W to 108 W) |
| Location: | SEC 35 T9S R21E |
| System Datum: | Mean Sea Level |

**FORMATION TOP DETAILS**

| TVDPath | MDPath | Formation |
|---|---|---|
| 1473.00 | 1505.58 | GREEN RIVER |
| 4744.00 | 4871.17 | WASATCH |
| 7461.00 | 7588.17 | MESAVERDE |

**CASING DETAILS**

| TVD | MD | Name | Size |
|---|---|---|---|
| 2600.00 | 2704.91 | 8 5/8" | 8.625 |

Plan: PLAN #1 (NBU 921-35J1BS/OH)

Created By: RobertScott Date: 12:56, October 28 2010

Scientific Drilling
Rocky Mountain Operations

# Kerr McGee Oil and Gas Onshore LP

**Uintah County, UT UTM12**
**NBU 921-35G Pad**
**NBU 921-35J1BS**

**OH**

**Plan: PLAN #1**

# Standard Planning Report

**28 October, 2010**

Anadarko
Petroleum Corporation

| | | | |
|---|---|---|---|
| **Database:** | EDM5000-RobertS-Local | **Local Co-ordinate Reference:** | Well NBU 921-35J1BS |
| **Company:** | Kerr McGee Oil and Gas Onshore LP | **TVD Reference:** | GL 5119' & KB 14' @ 5133.00ft (ASSUMED) |
| **Project:** | Uintah County, UT UTM12 | **MD Reference:** | GL 5119' & KB 14' @ 5133.00ft (ASSUMED) |
| **Site:** | NBU 921-35G Pad | **North Reference:** | True |
| **Well:** | NBU 921-35J1BS | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | OH | | |
| **Design:** | PLAN #1 | | |

**Project** Uintah County, UT UTM12

| | | | |
|---|---|---|---|
| **Map System:** | Universal Transverse Mercator (US Survey Feet) | **System Datum:** | Mean Sea Level |
| **Geo Datum:** | NAD 1927 - Western US | | |
| **Map Zone:** | Zone 12N (114 W to 108 W) | | |

**Site** NBU 921-35G Pad, SEC 35 T9S R21E

| | | | | | |
|---|---|---|---|---|---|
| **Site Position:** | | **Northing:** | 14,527,383.91 usft | **Latitude:** | 39° 59' 38.969 N |
| **From:** | Lat/Long | **Easting:** | 2,056,474.61 usft | **Longitude:** | 109° 30' 52.358 W |
| **Position Uncertainty:** | 0.00 ft | **Slot Radius:** | 13.200 in | **Grid Convergence:** | 0.95 ° |

**Well** NBU 921-35J1BS, 2053' FNL 1613' FEL

| | | | | | | |
|---|---|---|---|---|---|---|
| **Well Position** | **+N/-S** | 0.00 ft | **Northing:** | 14,527,383.91 usft | **Latitude:** | 39° 59' 38.969 N |
| | **+E/-W** | 0.00 ft | **Easting:** | 2,056,474.61 usft | **Longitude:** | 109° 30' 52.358 W |
| **Position Uncertainty** | | 0.00 ft | **Wellhead Elevation:** | | **Ground Level:** | 5,119.00 ft |

**Wellbore** OH

| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
|---|---|---|---|---|---|
| | IGRF2010 | 10/28/2010 | 11.16 | 65.88 | 52,385 |

**Design** PLAN #1

**Audit Notes:**

| | | | | | |
|---|---|---|---|---|---|
| **Version:** | | **Phase:** | PLAN | **Tie On Depth:** | 0.00 |

| Vertical Section: | Depth From (TVD) (ft) | +N/-S (ft) | +E/-W (ft) | Direction (°) |
|---|---|---|---|---|
| | 0.00 | 0.00 | 0.00 | 194.50 |

**Plan Sections**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) | TFO (°) | Target |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 300.00 | 0.00 | 0.00 | 300.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1,300.00 | 20.00 | 194.50 | 1,279.82 | -167.26 | -43.27 | 2.00 | 2.00 | 0.00 | 194.50 | |
| 2,739.25 | 20.00 | 194.50 | 2,632.27 | -643.82 | -166.56 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 3,739.25 | 0.00 | 0.00 | 3,612.09 | -811.09 | -209.83 | 2.00 | -2.00 | 0.00 | 180.00 | |
| 9,824.17 | 0.00 | 0.00 | 9,697.00 | -811.09 | -209.83 | 0.00 | 0.00 | 0.00 | 0.00 | NBU 921-35J1BS_PE |

| | | | |
|---|---|---|---|
| **Database:** | EDM5000-RobertS-Local | **Local Co-ordinate Reference:** | Well NBU 921-35J1BS |
| **Company:** | Kerr McGee Oil and Gas Onshore LP | **TVD Reference:** | GL 5119' & KB 14' @ 5133.00ft (ASSUMED) |
| **Project:** | Uintah County, UT UTM12 | **MD Reference:** | GL 5119' & KB 14' @ 5133.00ft (ASSUMED) |
| **Site:** | NBU 921-35G Pad | **North Reference:** | True |
| **Well:** | NBU 921-35J1BS | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | OH | | |
| **Design:** | PLAN #1 | | |

**Planned Survey**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 100.00 | 0.00 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 200.00 | 0.00 | 0.00 | 200.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 300.00 | 0.00 | 0.00 | 300.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Start Build 2.00** | | | | | | | | | |
| 400.00 | 2.00 | 194.50 | 399.98 | -1.69 | -0.44 | 1.75 | 2.00 | 2.00 | 0.00 |
| 500.00 | 4.00 | 194.50 | 499.84 | -6.76 | -1.75 | 6.98 | 2.00 | 2.00 | 0.00 |
| 600.00 | 6.00 | 194.50 | 599.45 | -15.19 | -3.93 | 15.69 | 2.00 | 2.00 | 0.00 |
| 700.00 | 8.00 | 194.50 | 698.70 | -26.99 | -6.98 | 27.88 | 2.00 | 2.00 | 0.00 |
| 800.00 | 10.00 | 194.50 | 797.47 | -42.14 | -10.90 | 43.52 | 2.00 | 2.00 | 0.00 |
| 900.00 | 12.00 | 194.50 | 895.62 | -60.61 | -15.68 | 62.60 | 2.00 | 2.00 | 0.00 |
| 1,000.00 | 14.00 | 194.50 | 993.06 | -82.38 | -21.31 | 85.10 | 2.00 | 2.00 | 0.00 |
| 1,100.00 | 16.00 | 194.50 | 1,089.64 | -107.44 | -27.80 | 110.98 | 2.00 | 2.00 | 0.00 |
| 1,200.00 | 18.00 | 194.50 | 1,185.27 | -135.74 | -35.12 | 140.21 | 2.00 | 2.00 | 0.00 |
| 1,300.00 | 20.00 | 194.50 | 1,279.82 | -167.26 | -43.27 | 172.77 | 2.00 | 2.00 | 0.00 |
| **Start 1439.25 hold at 1300.00 MD** | | | | | | | | | |
| 1,400.00 | 20.00 | 194.50 | 1,373.78 | -200.37 | -51.84 | 206.97 | 0.00 | 0.00 | 0.00 |
| 1,500.00 | 20.00 | 194.50 | 1,467.75 | -233.49 | -60.40 | 241.17 | 0.00 | 0.00 | 0.00 |
| 1,505.58 | 20.00 | 194.50 | 1,473.00 | -235.33 | -60.88 | 243.08 | 0.00 | 0.00 | 0.00 |
| **GREEN RIVER** | | | | | | | | | |
| 1,600.00 | 20.00 | 194.50 | 1,561.72 | -266.60 | -68.97 | 275.37 | 0.00 | 0.00 | 0.00 |
| 1,700.00 | 20.00 | 194.50 | 1,655.69 | -299.71 | -77.54 | 309.58 | 0.00 | 0.00 | 0.00 |
| 1,800.00 | 20.00 | 194.50 | 1,749.66 | -332.82 | -86.10 | 343.78 | 0.00 | 0.00 | 0.00 |
| 1,900.00 | 20.00 | 194.50 | 1,843.63 | -365.93 | -94.67 | 377.98 | 0.00 | 0.00 | 0.00 |
| 2,000.00 | 20.00 | 194.50 | 1,937.60 | -399.04 | -103.23 | 412.18 | 0.00 | 0.00 | 0.00 |
| 2,100.00 | 20.00 | 194.50 | 2,031.57 | -432.16 | -111.80 | 446.38 | 0.00 | 0.00 | 0.00 |
| 2,200.00 | 20.00 | 194.50 | 2,125.54 | -465.27 | -120.37 | 480.59 | 0.00 | 0.00 | 0.00 |
| 2,300.00 | 20.00 | 194.50 | 2,219.51 | -498.38 | -128.93 | 514.79 | 0.00 | 0.00 | 0.00 |
| 2,400.00 | 20.00 | 194.50 | 2,313.48 | -531.49 | -137.50 | 548.99 | 0.00 | 0.00 | 0.00 |
| 2,500.00 | 20.00 | 194.50 | 2,407.45 | -564.60 | -146.07 | 583.19 | 0.00 | 0.00 | 0.00 |
| 2,600.00 | 20.00 | 194.50 | 2,501.42 | -597.72 | -154.63 | 617.39 | 0.00 | 0.00 | 0.00 |
| 2,700.00 | 20.00 | 194.50 | 2,595.39 | -630.83 | -163.20 | 651.60 | 0.00 | 0.00 | 0.00 |
| 2,704.91 | 20.00 | 194.50 | 2,600.00 | -632.45 | -163.62 | 653.28 | 0.00 | 0.00 | 0.00 |
| **8 5/8"** | | | | | | | | | |
| 2,739.25 | 20.00 | 194.50 | 2,632.27 | -643.82 | -166.56 | 665.02 | 0.00 | 0.00 | 0.00 |
| **Start Drop -2.00** | | | | | | | | | |
| 2,800.00 | 18.79 | 194.50 | 2,689.57 | -663.35 | -171.61 | 685.19 | 2.00 | -2.00 | 0.00 |
| 2,900.00 | 16.79 | 194.50 | 2,784.79 | -692.92 | -179.26 | 715.73 | 2.00 | -2.00 | 0.00 |
| 3,000.00 | 14.79 | 194.50 | 2,881.01 | -719.26 | -186.07 | 742.94 | 2.00 | -2.00 | 0.00 |
| 3,100.00 | 12.79 | 194.50 | 2,978.13 | -742.32 | -192.04 | 766.76 | 2.00 | -2.00 | 0.00 |
| 3,200.00 | 10.79 | 194.50 | 3,076.01 | -762.10 | -197.16 | 787.19 | 2.00 | -2.00 | 0.00 |
| 3,300.00 | 8.79 | 194.50 | 3,174.55 | -778.55 | -201.41 | 804.18 | 2.00 | -2.00 | 0.00 |
| 3,400.00 | 6.79 | 194.50 | 3,273.63 | -791.66 | -204.81 | 817.73 | 2.00 | -2.00 | 0.00 |
| 3,500.00 | 4.79 | 194.50 | 3,373.11 | -801.42 | -207.33 | 827.80 | 2.00 | -2.00 | 0.00 |
| 3,600.00 | 2.79 | 194.50 | 3,472.89 | -807.81 | -208.98 | 834.41 | 2.00 | -2.00 | 0.00 |
| 3,700.00 | 0.79 | 194.50 | 3,572.83 | -810.83 | -209.76 | 837.52 | 2.00 | -2.00 | 0.00 |
| 3,739.25 | 0.00 | 0.00 | 3,612.09 | -811.09 | -209.83 | 837.79 | 2.00 | -2.00 | 421.63 |
| **Start 6084.91 hold at 3739.25 MD** | | | | | | | | | |
| 3,800.00 | 0.00 | 0.00 | 3,672.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 3,900.00 | 0.00 | 0.00 | 3,772.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 4,000.00 | 0.00 | 0.00 | 3,872.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 4,100.00 | 0.00 | 0.00 | 3,972.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 4,200.00 | 0.00 | 0.00 | 4,072.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |

| | | | |
|---|---|---|---|
| **Database:** | EDM5000-RobertS-Local | **Local Co-ordinate Reference:** | Well NBU 921-35J1BS |
| **Company:** | Kerr McGee Oil and Gas Onshore LP | **TVD Reference:** | GL 5119' & KB 14' @ 5133.00ft (ASSUMED) |
| **Project:** | Uintah County, UT UTM12 | **MD Reference:** | GL 5119' & KB 14' @ 5133.00ft (ASSUMED) |
| **Site:** | NBU 921-35G Pad | **North Reference:** | True |
| **Well:** | NBU 921-35J1BS | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | OH | | |
| **Design:** | PLAN #1 | | |

**Planned Survey**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
|---|---|---|---|---|---|---|---|---|---|
| 4,300.00 | 0.00 | 0.00 | 4,172.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 4,400.00 | 0.00 | 0.00 | 4,272.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 4,500.00 | 0.00 | 0.00 | 4,372.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 4,600.00 | 0.00 | 0.00 | 4,472.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 4,700.00 | 0.00 | 0.00 | 4,572.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 4,800.00 | 0.00 | 0.00 | 4,672.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 4,871.17 | 0.00 | 0.00 | 4,744.00 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| **WASATCH** | | | | | | | | | |
| 4,900.00 | 0.00 | 0.00 | 4,772.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 5,000.00 | 0.00 | 0.00 | 4,872.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 5,100.00 | 0.00 | 0.00 | 4,972.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 5,200.00 | 0.00 | 0.00 | 5,072.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 5,300.00 | 0.00 | 0.00 | 5,172.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 5,400.00 | 0.00 | 0.00 | 5,272.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 5,500.00 | 0.00 | 0.00 | 5,372.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 5,600.00 | 0.00 | 0.00 | 5,472.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 5,700.00 | 0.00 | 0.00 | 5,572.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 5,800.00 | 0.00 | 0.00 | 5,672.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 5,900.00 | 0.00 | 0.00 | 5,772.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 6,000.00 | 0.00 | 0.00 | 5,872.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 6,100.00 | 0.00 | 0.00 | 5,972.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 6,200.00 | 0.00 | 0.00 | 6,072.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 6,300.00 | 0.00 | 0.00 | 6,172.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 6,400.00 | 0.00 | 0.00 | 6,272.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 6,500.00 | 0.00 | 0.00 | 6,372.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 6,600.00 | 0.00 | 0.00 | 6,472.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 6,700.00 | 0.00 | 0.00 | 6,572.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 6,800.00 | 0.00 | 0.00 | 6,672.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 6,900.00 | 0.00 | 0.00 | 6,772.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 7,000.00 | 0.00 | 0.00 | 6,872.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 7,100.00 | 0.00 | 0.00 | 6,972.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 7,200.00 | 0.00 | 0.00 | 7,072.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 7,300.00 | 0.00 | 0.00 | 7,172.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 7,400.00 | 0.00 | 0.00 | 7,272.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 7,500.00 | 0.00 | 0.00 | 7,372.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 7,588.17 | 0.00 | 0.00 | 7,461.00 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| **MESAVERDE** | | | | | | | | | |
| 7,600.00 | 0.00 | 0.00 | 7,472.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 7,700.00 | 0.00 | 0.00 | 7,572.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 7,800.00 | 0.00 | 0.00 | 7,672.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 7,900.00 | 0.00 | 0.00 | 7,772.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 8,000.00 | 0.00 | 0.00 | 7,872.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 8,100.00 | 0.00 | 0.00 | 7,972.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 8,200.00 | 0.00 | 0.00 | 8,072.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 8,300.00 | 0.00 | 0.00 | 8,172.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 8,400.00 | 0.00 | 0.00 | 8,272.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 8,500.00 | 0.00 | 0.00 | 8,372.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 8,600.00 | 0.00 | 0.00 | 8,472.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 8,700.00 | 0.00 | 0.00 | 8,572.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 8,800.00 | 0.00 | 0.00 | 8,672.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 8,900.00 | 0.00 | 0.00 | 8,772.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 9,000.00 | 0.00 | 0.00 | 8,872.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 9,100.00 | 0.00 | 0.00 | 8,972.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 9,200.00 | 0.00 | 0.00 | 9,072.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |

| | | | |
|---|---|---|---|
| **Database:** | EDM5000-RobertS-Local | **Local Co-ordinate Reference:** | Well NBU 921-35J1BS |
| **Company:** | Kerr McGee Oil and Gas Onshore LP | **TVD Reference:** | GL 5119' & KB 14' @ 5133.00ft (ASSUMED) |
| **Project:** | Uintah County, UT UTM12 | **MD Reference:** | GL 5119' & KB 14' @ 5133.00ft (ASSUMED) |
| **Site:** | NBU 921-35G Pad | **North Reference:** | True |
| **Well:** | NBU 921-35J1BS | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | OH | | |
| **Design:** | PLAN #1 | | |

**Planned Survey**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
|---|---|---|---|---|---|---|---|---|---|
| 9,300.00 | 0.00 | 0.00 | 9,172.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 9,400.00 | 0.00 | 0.00 | 9,272.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 9,500.00 | 0.00 | 0.00 | 9,372.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 9,600.00 | 0.00 | 0.00 | 9,472.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 9,700.00 | 0.00 | 0.00 | 9,572.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 9,800.00 | 0.00 | 0.00 | 9,672.83 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| 9,824.17 | 0.00 | 0.00 | 9,697.00 | -811.09 | -209.83 | 837.79 | 0.00 | 0.00 | 0.00 |
| **TD at 9824.17 - NBU 921-35J1BS_PBHL** | | | | | | | | | |

**Design Targets**

| Target Name - hit/miss target - Shape | Dip Angle (°) | Dip Dir. (°) | TVD (ft) | +N/-S (ft) | +E/-W (ft) | Northing (usft) | Easting (usft) | Latitude | Longitude |
|---|---|---|---|---|---|---|---|---|---|
| NBU 921-35J1BS_PBHL<br>- plan hits target center<br>- Circle (radius 25.00) | 0.00 | 0.00 | 9,697.00 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |

**Casing Points**

| Measured Depth (ft) | Vertical Depth (ft) | Name | Casing Diameter (in) | Hole Diameter (in) |
|---|---|---|---|---|
| 2,704.91 | 2,600.00 | 8 5/8" | 8.625 | 11.000 |

**Formations**

| Measured Depth (ft) | Vertical Depth (ft) | Name | Lithology | Dip (°) | Dip Direction (°) |
|---|---|---|---|---|---|
| 1,505.58 | 1,473.00 | GREEN RIVER | | | |
| 4,871.17 | 4,744.00 | WASATCH | | | |
| 7,588.17 | 7,461.00 | MESAVERDE | | | |

**Plan Annotations**

| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates +N/-S (ft) | Local Coordinates +E/-W (ft) | Comment |
|---|---|---|---|---|
| 300.00 | 300.00 | 0.00 | 0.00 | Start Build 2.00 |
| 1,300.00 | 1,279.82 | -167.26 | -43.27 | Start 1439.25 hold at 1300.00 MD |
| 2,739.25 | 2,632.27 | -643.82 | -166.56 | Start Drop -2.00 |
| 3,739.25 | 3,612.09 | -811.09 | -209.83 | Start 6084.91 hold at 3739.25 MD |
| 9,824.17 | 9,697.00 | -811.09 | -209.83 | TD at 9824.17 |

Scientific Drilling
Rocky Mountain Operations

# Kerr McGee Oil and Gas Onshore LP

**Uintah County, UT UTM12**
**NBU 921-35G Pad**
**NBU 921-35J1BS**

**OH**

**Plan: PLAN #1**

# Standard Planning Report - Geographic

**28 October, 2010**

Anadarko
Petroleum Corporation

| | | | |
|---|---|---|---|
| **Database:** | EDM5000-RobertS-Local | **Local Co-ordinate Reference:** | Well NBU 921-35J1BS |
| **Company:** | Kerr McGee Oil and Gas Onshore LP | **TVD Reference:** | GL 5119' & KB 14' @ 5133.00ft (ASSUMED) |
| **Project:** | Uintah County, UT UTM12 | **MD Reference:** | GL 5119' & KB 14' @ 5133.00ft (ASSUMED) |
| **Site:** | NBU 921-35G Pad | **North Reference:** | True |
| **Well:** | NBU 921-35J1BS | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | OH | | |
| **Design:** | PLAN #1 | | |

**Project** Uintah County, UT UTM12

| | | | |
|---|---|---|---|
| **Map System:** | Universal Transverse Mercator (US Survey Feet) | **System Datum:** | Mean Sea Level |
| **Geo Datum:** | NAD 1927 - Western US | | |
| **Map Zone:** | Zone 12N (114 W to 108 W) | | |

**Site** NBU 921-35G Pad, SEC 35 T9S R21E

| | | | | | |
|---|---|---|---|---|---|
| **Site Position:** | | **Northing:** | 14,527,383.91 usft | **Latitude:** | 39° 59' 38.969 N |
| **From:** | Lat/Long | **Easting:** | 2,056,474.61 usft | **Longitude:** | 109° 30' 52.358 W |
| **Position Uncertainty:** | 0.00 ft | **Slot Radius:** | 13.200 in | **Grid Convergence:** | 0.95 ° |

**Well** NBU 921-35J1BS, 2053' FNL 1613' FEL

| | | | | | | |
|---|---|---|---|---|---|---|
| **Well Position** | **+N/-S** | 0.00 ft | **Northing:** | 14,527,383.91 usft | **Latitude:** | 39° 59' 38.969 N |
| | **+E/-W** | 0.00 ft | **Easting:** | 2,056,474.61 usft | **Longitude:** | 109° 30' 52.358 W |
| **Position Uncertainty** | | 0.00 ft | **Wellhead Elevation:** | | **Ground Level:** | 5,119.00 ft |

**Wellbore** OH

| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
|---|---|---|---|---|---|
| | IGRF2010 | 10/28/2010 | 11.16 | 65.88 | 52,385 |

**Design** PLAN #1

**Audit Notes:**

| | | | | | |
|---|---|---|---|---|---|
| **Version:** | | **Phase:** | PLAN | **Tie On Depth:** | 0.00 |

| Vertical Section: | Depth From (TVD) (ft) | +N/-S (ft) | +E/-W (ft) | Direction (°) |
|---|---|---|---|---|
| | 0.00 | 0.00 | 0.00 | 194.50 |

**Plan Sections**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) | TFO (°) | Target |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 300.00 | 0.00 | 0.00 | 300.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1,300.00 | 20.00 | 194.50 | 1,279.82 | -167.26 | -43.27 | 2.00 | 2.00 | 0.00 | 194.50 | |
| 2,739.25 | 20.00 | 194.50 | 2,632.27 | -643.82 | -166.56 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 3,739.25 | 0.00 | 0.00 | 3,612.09 | -811.09 | -209.83 | 2.00 | -2.00 | 0.00 | 180.00 | |
| 9,824.17 | 0.00 | 0.00 | 9,697.00 | -811.09 | -209.83 | 0.00 | 0.00 | 0.00 | 0.00 | NBU 921-35J1BS_PE |

| | | | |
|---|---|---|---|
| **Database:** | EDM5000-RobertS-Local | **Local Co-ordinate Reference:** | Well NBU 921-35J1BS |
| **Company:** | Kerr McGee Oil and Gas Onshore LP | **TVD Reference:** | GL 5119' & KB 14' @ 5133.00ft (ASSUMED) |
| **Project:** | Uintah County, UT UTM12 | **MD Reference:** | GL 5119' & KB 14' @ 5133.00ft (ASSUMED) |
| **Site:** | NBU 921-35G Pad | **North Reference:** | True |
| **Well:** | NBU 921-35J1BS | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | OH | | |
| **Design:** | PLAN #1 | | |

**Planned Survey**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Map Northing (usft) | Map Easting (usft) | Latitude | Longitude |
|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 14,527,383.91 | 2,056,474.61 | 39° 59' 38.969 N | 109° 30' 52.358 W |
| 100.00 | 0.00 | 0.00 | 100.00 | 0.00 | 0.00 | 14,527,383.91 | 2,056,474.61 | 39° 59' 38.969 N | 109° 30' 52.358 W |
| 200.00 | 0.00 | 0.00 | 200.00 | 0.00 | 0.00 | 14,527,383.91 | 2,056,474.61 | 39° 59' 38.969 N | 109° 30' 52.358 W |
| 300.00 | 0.00 | 0.00 | 300.00 | 0.00 | 0.00 | 14,527,383.91 | 2,056,474.61 | 39° 59' 38.969 N | 109° 30' 52.358 W |
| **Start Build 2.00** | | | | | | | | | |
| 400.00 | 2.00 | 194.50 | 399.98 | -1.69 | -0.44 | 14,527,382.21 | 2,056,474.20 | 39° 59' 38.952 N | 109° 30' 52.364 W |
| 500.00 | 4.00 | 194.50 | 499.84 | -6.76 | -1.75 | 14,527,377.13 | 2,056,472.97 | 39° 59' 38.902 N | 109° 30' 52.381 W |
| 600.00 | 6.00 | 194.50 | 599.45 | -15.19 | -3.93 | 14,527,368.65 | 2,056,470.93 | 39° 59' 38.819 N | 109° 30' 52.409 W |
| 700.00 | 8.00 | 194.50 | 698.70 | -26.99 | -6.98 | 14,527,356.81 | 2,056,468.08 | 39° 59' 38.702 N | 109° 30' 52.448 W |
| 800.00 | 10.00 | 194.50 | 797.47 | -42.14 | -10.90 | 14,527,341.60 | 2,056,464.41 | 39° 59' 38.552 N | 109° 30' 52.498 W |
| 900.00 | 12.00 | 194.50 | 895.62 | -60.61 | -15.68 | 14,527,323.05 | 2,056,459.94 | 39° 59' 38.370 N | 109° 30' 52.560 W |
| 1,000.00 | 14.00 | 194.50 | 993.06 | -82.38 | -21.31 | 14,527,301.18 | 2,056,454.67 | 39° 59' 38.154 N | 109° 30' 52.632 W |
| 1,100.00 | 16.00 | 194.50 | 1,089.64 | -107.44 | -27.80 | 14,527,276.02 | 2,056,448.61 | 39° 59' 37.907 N | 109° 30' 52.716 W |
| 1,200.00 | 18.00 | 194.50 | 1,185.27 | -135.74 | -35.12 | 14,527,247.60 | 2,056,441.76 | 39° 59' 37.627 N | 109° 30' 52.810 W |
| 1,300.00 | 20.00 | 194.50 | 1,279.82 | -167.26 | -43.27 | 14,527,215.95 | 2,056,434.13 | 39° 59' 37.316 N | 109° 30' 52.914 W |
| **Start 1439.25 hold at 1300.00 MD** | | | | | | | | | |
| 1,400.00 | 20.00 | 194.50 | 1,373.78 | -200.37 | -51.84 | 14,527,182.70 | 2,056,426.12 | 39° 59' 36.988 N | 109° 30' 53.025 W |
| 1,500.00 | 20.00 | 194.50 | 1,467.75 | -233.49 | -60.40 | 14,527,149.45 | 2,056,418.10 | 39° 59' 36.661 N | 109° 30' 53.135 W |
| 1,505.58 | 20.00 | 194.50 | 1,473.00 | -235.33 | -60.88 | 14,527,147.60 | 2,056,417.66 | 39° 59' 36.643 N | 109° 30' 53.141 W |
| **GREEN RIVER** | | | | | | | | | |
| 1,600.00 | 20.00 | 194.50 | 1,561.72 | -266.60 | -68.97 | 14,527,116.20 | 2,056,410.09 | 39° 59' 36.334 N | 109° 30' 53.245 W |
| 1,700.00 | 20.00 | 194.50 | 1,655.69 | -299.71 | -77.54 | 14,527,082.95 | 2,056,402.08 | 39° 59' 36.006 N | 109° 30' 53.355 W |
| 1,800.00 | 20.00 | 194.50 | 1,749.66 | -332.82 | -86.10 | 14,527,049.70 | 2,056,394.06 | 39° 59' 35.679 N | 109° 30' 53.465 W |
| 1,900.00 | 20.00 | 194.50 | 1,843.63 | -365.93 | -94.67 | 14,527,016.45 | 2,056,386.05 | 39° 59' 35.352 N | 109° 30' 53.575 W |
| 2,000.00 | 20.00 | 194.50 | 1,937.60 | -399.04 | -103.23 | 14,526,983.20 | 2,056,378.04 | 39° 59' 35.024 N | 109° 30' 53.685 W |
| 2,100.00 | 20.00 | 194.50 | 2,031.57 | -432.16 | -111.80 | 14,526,949.95 | 2,056,370.02 | 39° 59' 34.697 N | 109° 30' 53.795 W |
| 2,200.00 | 20.00 | 194.50 | 2,125.54 | -465.27 | -120.37 | 14,526,916.70 | 2,056,362.01 | 39° 59' 34.370 N | 109° 30' 53.905 W |
| 2,300.00 | 20.00 | 194.50 | 2,219.51 | -498.38 | -128.93 | 14,526,883.45 | 2,056,354.00 | 39° 59' 34.043 N | 109° 30' 54.015 W |
| 2,400.00 | 20.00 | 194.50 | 2,313.48 | -531.49 | -137.50 | 14,526,850.20 | 2,056,345.99 | 39° 59' 33.715 N | 109° 30' 54.125 W |
| 2,500.00 | 20.00 | 194.50 | 2,407.45 | -564.60 | -146.07 | 14,526,816.95 | 2,056,337.97 | 39° 59' 33.388 N | 109° 30' 54.235 W |
| 2,600.00 | 20.00 | 194.50 | 2,501.42 | -597.72 | -154.63 | 14,526,783.70 | 2,056,329.96 | 39° 59' 33.061 N | 109° 30' 54.345 W |
| 2,700.00 | 20.00 | 194.50 | 2,595.39 | -630.83 | -163.20 | 14,526,750.45 | 2,056,321.95 | 39° 59' 32.733 N | 109° 30' 54.456 W |
| 2,704.91 | 20.00 | 194.50 | 2,600.00 | -632.45 | -163.62 | 14,526,748.82 | 2,056,321.55 | 39° 59' 32.717 N | 109° 30' 54.461 W |
| **8 5/8"** | | | | | | | | | |
| 2,739.25 | 20.00 | 194.50 | 2,632.27 | -643.82 | -166.56 | 14,526,737.40 | 2,056,318.80 | 39° 59' 32.605 N | 109° 30' 54.499 W |
| **Start Drop -2.00** | | | | | | | | | |
| 2,800.00 | 18.79 | 194.50 | 2,689.57 | -663.35 | -171.61 | 14,526,717.79 | 2,056,314.07 | 39° 59' 32.412 N | 109° 30' 54.564 W |
| 2,900.00 | 16.79 | 194.50 | 2,784.79 | -692.92 | -179.26 | 14,526,688.10 | 2,056,306.92 | 39° 59' 32.120 N | 109° 30' 54.662 W |
| 3,000.00 | 14.79 | 194.50 | 2,881.01 | -719.26 | -186.07 | 14,526,661.65 | 2,056,300.55 | 39° 59' 31.859 N | 109° 30' 54.750 W |
| 3,100.00 | 12.79 | 194.50 | 2,978.13 | -742.32 | -192.04 | 14,526,638.49 | 2,056,294.96 | 39° 59' 31.631 N | 109° 30' 54.826 W |
| 3,200.00 | 10.79 | 194.50 | 3,076.01 | -762.10 | -197.16 | 14,526,618.64 | 2,056,290.18 | 39° 59' 31.436 N | 109° 30' 54.892 W |
| 3,300.00 | 8.79 | 194.50 | 3,174.55 | -778.55 | -201.41 | 14,526,602.12 | 2,056,286.20 | 39° 59' 31.273 N | 109° 30' 54.947 W |
| 3,400.00 | 6.79 | 194.50 | 3,273.63 | -791.66 | -204.81 | 14,526,588.95 | 2,056,283.02 | 39° 59' 31.144 N | 109° 30' 54.990 W |
| 3,500.00 | 4.79 | 194.50 | 3,373.11 | -801.42 | -207.33 | 14,526,579.15 | 2,056,280.66 | 39° 59' 31.047 N | 109° 30' 55.023 W |
| 3,600.00 | 2.79 | 194.50 | 3,472.89 | -807.81 | -208.98 | 14,526,572.73 | 2,056,279.12 | 39° 59' 30.984 N | 109° 30' 55.044 W |
| 3,700.00 | 0.79 | 194.50 | 3,572.83 | -810.83 | -209.76 | 14,526,569.70 | 2,056,278.39 | 39° 59' 30.954 N | 109° 30' 55.054 W |
| 3,739.25 | 0.00 | 0.00 | 3,612.09 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| **Start 6084.91 hold at 3739.25 MD** | | | | | | | | | |
| 3,800.00 | 0.00 | 0.00 | 3,672.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 3,900.00 | 0.00 | 0.00 | 3,772.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 4,000.00 | 0.00 | 0.00 | 3,872.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 4,100.00 | 0.00 | 0.00 | 3,972.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 4,200.00 | 0.00 | 0.00 | 4,072.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 4,300.00 | 0.00 | 0.00 | 4,172.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |

| | | | |
|---|---|---|---|
| **Database:** | EDM5000-RobertS-Local | **Local Co-ordinate Reference:** | Well NBU 921-35J1BS |
| **Company:** | Kerr McGee Oil and Gas Onshore LP | **TVD Reference:** | GL 5119' & KB 14' @ 5133.00ft (ASSUMED) |
| **Project:** | Uintah County, UT UTM12 | **MD Reference:** | GL 5119' & KB 14' @ 5133.00ft (ASSUMED) |
| **Site:** | NBU 921-35G Pad | **North Reference:** | True |
| **Well:** | NBU 921-35J1BS | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | OH | | |
| **Design:** | PLAN #1 | | |

**Planned Survey**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Map Northing (usft) | Map Easting (usft) | Latitude | Longitude |
|---|---|---|---|---|---|---|---|---|---|
| 4,400.00 | 0.00 | 0.00 | 4,272.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 4,500.00 | 0.00 | 0.00 | 4,372.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 4,600.00 | 0.00 | 0.00 | 4,472.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 4,700.00 | 0.00 | 0.00 | 4,572.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 4,800.00 | 0.00 | 0.00 | 4,672.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 4,871.17 | 0.00 | 0.00 | 4,744.00 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| **WASATCH** | | | | | | | | | |
| 4,900.00 | 0.00 | 0.00 | 4,772.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 5,000.00 | 0.00 | 0.00 | 4,872.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 5,100.00 | 0.00 | 0.00 | 4,972.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 5,200.00 | 0.00 | 0.00 | 5,072.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 5,300.00 | 0.00 | 0.00 | 5,172.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 5,400.00 | 0.00 | 0.00 | 5,272.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 5,500.00 | 0.00 | 0.00 | 5,372.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 5,600.00 | 0.00 | 0.00 | 5,472.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 5,700.00 | 0.00 | 0.00 | 5,572.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 5,800.00 | 0.00 | 0.00 | 5,672.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 5,900.00 | 0.00 | 0.00 | 5,772.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 6,000.00 | 0.00 | 0.00 | 5,872.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 6,100.00 | 0.00 | 0.00 | 5,972.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 6,200.00 | 0.00 | 0.00 | 6,072.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 6,300.00 | 0.00 | 0.00 | 6,172.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 6,400.00 | 0.00 | 0.00 | 6,272.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 6,500.00 | 0.00 | 0.00 | 6,372.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 6,600.00 | 0.00 | 0.00 | 6,472.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 6,700.00 | 0.00 | 0.00 | 6,572.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 6,800.00 | 0.00 | 0.00 | 6,672.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 6,900.00 | 0.00 | 0.00 | 6,772.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 7,000.00 | 0.00 | 0.00 | 6,872.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 7,100.00 | 0.00 | 0.00 | 6,972.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 7,200.00 | 0.00 | 0.00 | 7,072.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 7,300.00 | 0.00 | 0.00 | 7,172.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 7,400.00 | 0.00 | 0.00 | 7,272.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 7,500.00 | 0.00 | 0.00 | 7,372.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 7,588.17 | 0.00 | 0.00 | 7,461.00 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| **MESAVERDE** | | | | | | | | | |
| 7,600.00 | 0.00 | 0.00 | 7,472.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 7,700.00 | 0.00 | 0.00 | 7,572.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 7,800.00 | 0.00 | 0.00 | 7,672.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 7,900.00 | 0.00 | 0.00 | 7,772.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 8,000.00 | 0.00 | 0.00 | 7,872.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 8,100.00 | 0.00 | 0.00 | 7,972.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 8,200.00 | 0.00 | 0.00 | 8,072.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 8,300.00 | 0.00 | 0.00 | 8,172.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 8,400.00 | 0.00 | 0.00 | 8,272.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 8,500.00 | 0.00 | 0.00 | 8,372.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 8,600.00 | 0.00 | 0.00 | 8,472.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 8,700.00 | 0.00 | 0.00 | 8,572.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 8,800.00 | 0.00 | 0.00 | 8,672.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 8,900.00 | 0.00 | 0.00 | 8,772.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 9,000.00 | 0.00 | 0.00 | 8,872.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 9,100.00 | 0.00 | 0.00 | 8,972.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 9,200.00 | 0.00 | 0.00 | 9,072.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 9,300.00 | 0.00 | 0.00 | 9,172.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |

| | | | |
|---|---|---|---|
| **Database:** | EDM5000-RobertS-Local | **Local Co-ordinate Reference:** | Well NBU 921-35J1BS |
| **Company:** | Kerr McGee Oil and Gas Onshore LP | **TVD Reference:** | GL 5119' & KB 14' @ 5133.00ft (ASSUMED) |
| **Project:** | Uintah County, UT UTM12 | **MD Reference:** | GL 5119' & KB 14' @ 5133.00ft (ASSUMED) |
| **Site:** | NBU 921-35G Pad | **North Reference:** | True |
| **Well:** | NBU 921-35J1BS | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | OH | | |
| **Design:** | PLAN #1 | | |

**Planned Survey**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Map Northing (usft) | Map Easting (usft) | Latitude | Longitude |
|---|---|---|---|---|---|---|---|---|---|
| 9,400.00 | 0.00 | 0.00 | 9,272.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 9,500.00 | 0.00 | 0.00 | 9,372.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 9,600.00 | 0.00 | 0.00 | 9,472.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 9,700.00 | 0.00 | 0.00 | 9,572.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 9,800.00 | 0.00 | 0.00 | 9,672.83 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| 9,824.17 | 0.00 | 0.00 | 9,697.00 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |
| **TD at 9824.17 - NBU 921-35J1BS_PBHL** | | | | | | | | | |

**Design Targets**

| Target Name - hit/miss target - Shape | Dip Angle (°) | Dip Dir. (°) | TVD (ft) | +N/-S (ft) | +E/-W (ft) | Northing (usft) | Easting (usft) | Latitude | Longitude |
|---|---|---|---|---|---|---|---|---|---|
| NBU 921-35J1BS_PBHl<br>- plan hits target center<br>- Circle (radius 25.00) | 0.00 | 0.00 | 9,697.00 | -811.09 | -209.83 | 14,526,569.44 | 2,056,278.32 | 39° 59' 30.952 N | 109° 30' 55.055 W |

**Casing Points**

| Measured Depth (ft) | Vertical Depth (ft) | Name | Casing Diameter (in) | Hole Diameter (in) |
|---|---|---|---|---|
| 2,704.91 | 2,600.00 | 8 5/8" | 8.625 | 11.000 |

**Formations**

| Measured Depth (ft) | Vertical Depth (ft) | Name | Lithology | Dip (°) | Dip Direction (°) |
|---|---|---|---|---|---|
| 1,505.58 | 1,473.00 | GREEN RIVER | | | |
| 4,871.17 | 4,744.00 | WASATCH | | | |
| 7,588.17 | 7,461.00 | MESAVERDE | | | |

**Plan Annotations**

| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates +N/-S (ft) | Local Coordinates +E/-W (ft) | Comment |
|---|---|---|---|---|
| 300.00 | 300.00 | 0.00 | 0.00 | Start Build 2.00 |
| 1,300.00 | 1,279.82 | -167.26 | -43.27 | Start 1439.25 hold at 1300.00 MD |
| 2,739.25 | 2,632.27 | -643.82 | -166.56 | Start Drop -2.00 |
| 3,739.25 | 3,612.09 | -811.09 | -209.83 | Start 6084.91 hold at 3739.25 MD |
| 9,824.17 | 9,697.00 | -811.09 | -209.83 | TD at 9824.17 |

'APIWellNo:43047513640000'

**NBU 921-35G1BS**
Surface: 2,053’ FNL 1,633’ FEL (SW/4NE/4)
BHL: 1,583’ FNL 1,819’ FEL (SW/4NE/4)

**NBU 921-35G1CS**
Surface: 2,053’ FNL 1,653’ FEL (SW/4NE/4)
BHL: 1,916’ FNL 1,820’ FEL (SW/4NE/4)

**NBU 921-35G4BS**
Surface: 2,053’ FNL 1,643’ FEL (SW/4NE/4)
BHL: 2,250’ FNL 1,822’ FEL (SW/4NE/4)

**NBU 921-35G4CS**
Surface: 2,053’ FNL 1,623’ FEL (SW/4NE/4)
BHL: 2,583’ FNL 1,823’ FEL (SW/4NE/4)

**NBU 921-35J1BS**
Surface: 2,053’ FNL 1,613’ FEL (SW/4NE/4)
BHL: 2,419’ FSL 1,824’ FEL (NW/4SE/4)

Pad: NBU 921-35G
Section 35 T9S R21E
Mineral Lease: ML 22582

Uintah County, Utah
Operator: Kerr-McGee Oil & Gas Onshore LP

***MULTI-POINT SURFACE USE PLAN of OPERATIONS (SUPO)***

This SUPO contains surface operating procedures for Kerr-McGee Oil & Gas Onshore LP (KMG), a wholly owned subsidiary of Anadarko Petroleum Corporation (APC) pertaining to actions that involve the State of Utah School and Institutional Trust Lands Administration (SITLA) in the development of minerals leased to APC/KMG (including, but not limited to, APDs/SULAs/ROEs/ROWs and/or easements).

See associated Utah Division of Oil, Gas, and Mining (UDOGM) Form 3(s), plats, maps, and other attachments for site-specific information on projects represented herein.

In accordance with Utah Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, these wells will be directionally drilled. Refer to Topo Map A for directions to the location and Topo Maps A and B for location of access roads within a 2-mile radius.

**A. <u>Existing Roads</u>:**

Existing roads consist of county roads and improved/unimproved lease roads. APC/KMG will maintain existing roads in a condition that is the same as or better than before operations began and in a safe and usable condition. Maintenance of existing roads will continue until final abandonment and reclamation of well pads and/or other facilities. The road maintenance may include, but is not limited to, blading, ditching, culvert

installation/cleanout, surfacing, and dust control.

Typically, roads, gathering lines and electrical distribution lines will occupy common disturbance corridors and roadways will be used as working space. All disturbances located in the same corridor will overlap each other to the maximum extent possible; in no case will the maximum disturbance width of the access road and utility corridors exceed 50', unless otherwise approved.

**B. Planned Access Roads:**

Approximately ±40' (0.01 miles) of road re-route is proposed (see Topo Map B). Applicable Uintah County encroachment and/or pipeline crossing permits will be obtained prior to construction/development. No other pipelines will be crossed at this location.

Where roads are new or to be reconstructed, they will be located, designed, and maintained to meet the standards of SITLA and other commonly accepted Best Management Practices (BMPs). If a new road/corridor were to cross a water of the United States, KMG will adhere to the requirements of applicable Nationwide or Individual Permits of the Department of Army Corps of Engineers.

Turnouts; major cut and fills; culverts; bridges; gates; cattle guards; low water crossings; or modifications needed to existing infrastructure/facilities were determined at the on-site and, as applicable, are typically shown on attached Exhibits and Topo maps.

**C. Location of Existing and Proposed Facilities:**

This pad will expand the existing pad for the CIGE 204. This well location is a shut-in well according to Utah Division of Oil, Gas and Mining (UDOGM) records as of November 11, 2010.

Production facilities (see Well Pad Design Summary and Facilities Diagram):

Production facilities will be installed on the disturbed portion of each well pad and may include bermed components (typically excluding dehy's and/or separators) that contain fluids (i.e. production tanks, produced liquids tanks). The berms will be constructed of compacted subsoil or corrugated metal, impervious, designed to hold 110% of the capacity of the largest tank, and be independent of the back cut. All permanent (on-site six months or longer) aboveground structures constructed or installed, including pumping units, will be painted a flat, non-reflective, earth-tone color chosen at the onsite in coordination with SITLA.

Production tanks will be constructed, maintained, and operated to prevent unauthorized surface or subsurface discharges of liquids and to prevent livestock or wildlife entry. The tanks are not to be used for disposal of liquids from additional sources without prior approval of UDOGM.
Gathering facilities:

The following pipeline transmission facilities will apply if the well is productive (see Topo D):

The total gas gathering (steel line pipe with fusion bond epoxy coating) pipeline distances from the meter to the tie in point is ±5,100' and the individual segments are broken up as follows:

±150' (0.03 miles) –New 6" buried gas pipeline from the meter to the edge of the pad.
±370' (0.1 miles) –New 6" buried gas pipeline from the edge of pad to the NBU 921-35H pad intersection.
±3,160' (0.6 miles) –New 8" buried gas pipeline from the NBU 921-35H pad intersection to the NBU 921-35K pad intersection.
±920' (0.2 miles) –New 12" buried gas pipeline from the NBU 921-35K pad intersection to the NBU 921-35M pad intersection.

The total liquid gathering pipeline distance from the separator to the tie in point is ±5,100' and the individual segments are broken up as follows:

±150' (0.03 miles) –New 6" buried liquid pipeline from the separator to the edge of the pad.
±370' (0.1 miles) –New 6" buried liquid pipeline from the edge of pad to the NBU 921-35H pad intersection.
±3,160' (0.6 miles) –New 6" buried liquid pipeline from the NBU 921-35H pad intersection to the NBU 921-35M pad intersection.
±1,420' (0.3 miles) –New 6" buried liquid pipeline from the NBU 921-35M pad intersection to the existing buried liquid pipeline.

The liquid gathering lines will be made of polyethylene or a composite polyethylene/steel or polyethylene/fiberglass that is not subject to internal or external pipe corrosion. The content of the produced fluids to be transferred by the liquid gathering system will be approximately 92% produced water and 8% condensate. Trunk line valve connections for the water gathering system will be below ground but accessible from the surface in order to prevent freezing during winter time.

The proposed pipelines will be buried and will include gas gathering and liquid gathering pipelines in the same trench. Where the pipeline is adjacent to the road or well pad, the road and/or well pad will be utilized for construction activities and staging. Kerr-McGee requests a permanent 30' right-of-way adjacent to the road for life-of-project for maintenance, repairs, and/or upgrades, no additional right-of-way will be needed beyond the 30'. Where the pipeline is not adjacent to the road or well pad, Kerr-McGee requests a temporary 45' construction right-of-way and 30' permanent right-of-way.

The proposed trench width for the pipeline would range from 18-48 inches and will be excavated to a depth of 48 to 60 inches of normal soil cover or 24 inches of cover in consolidated rock. During construction blasting may occur along the proposed right-of-way where trenching equipment cannot cut into the bedrock. Large debris and rocks removed from the earth during trenching and blasting that could not be returned to the trench would be distributed evenly and naturally in the project area. The proposed pipelines will be pressure tested pneumatically (depending on size) or with fluids (either fresh or produced). If fluids are used, there will be no discharge to the surface.
Pipeline signs will be installed along the right-of-way to indicate the pipeline proximity, ownership, and to provide emergency contact phone numbers. Above ground valves, T's, and/or cathodic protection will be installed at various locations for connection, corrosion prevention and/or for safety purposes.

**D. Location and Type of Water Supply:**

Water for drilling purposes will be obtained from one of the following sources:

- Dalbo Inc.'s underground well located in Ouray, Utah, Sec. 32 T4S R3E, Water User Claim number 43-8496, application number 53617.
- Price Water Pumping Inc. Green River and White River, various sources, Water Right Number 49-1659, application number: a35745.

Water will be hauled to location over the roads marked on Maps A and B.
No water well is to be drilled on this lease.

**E. Source of Construction Materials:**

Construction operations will typically be completed with native materials found on location. If needed, construction materials that must be imported to the site (mineral material aggregate, soils or materials suitable for fill/surfacing) will be obtained from a nearby permitted source and described in subsequent Sundry requests. No construction materials will be removed from State lands without prior approval from SITLA.

**F. Methods of Handling Waste Materials:**

Should the well be productive, produced water will be contained in a water tank and will be transported by pipeline and/or truck to an approved disposal sites facilities and/or Salt Water Disposal (SWD) injection well. Currently, those facilities are:

RNI in Sec. 5 T9S R22E
Ace Oilfield in Sec. 2 T6S R20E
MC&MC in Sec. 12 T6S R19E
Pipeline Facility in Sec. 36 T9S R20E
Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E
Bonanza Evaporation Pond in Sec. 2 T10S R23E
Ouray #1 SWD in Sec. 1 T9S R21E
NBU 159 SWD in Sec. 35 T9S R21E
CIGE 112D SWD in Sec. 19 T9S R21E
CIGE 114 SWD in Sec. 34 T9S R21E
NBU 921-34K SWD in Sec. 34 T9S R21E
NBU 921-33F SWD in Sec. 33 T9S R21E
NBU 921-34L SWD in Sec. 34 T9S R21E

Drill cuttings and/or fluids will be contained in the reserve/frac pit. Cuttings will be buried in pit(s) upon closure. Unless otherwise approved, no oil or other oil-based drilling additives, chromium/metals-based, or saline muds will be used during drilling. Only fresh water (as specified above), biodegradable polymer soap, bentonite clay, and/or non-toxic additives will be used in the mud system.

Pits will be constructed to minimize the accumulation of surface runoff. Should fluid hydrocarbons be

encountered during drilling, completions or well testing, product will either be contained in test tanks on the well site or evacuated by vacuum trucks and transported to an approved disposal/sales facility. Should petroleum hydrocarbons unexpectedly be released into a pit, they will be removed as soon as practical but in no case will they remain longer than 72 hours unless an alternate is approved by SITLA. Should timely removal prove infeasible, the pit will be netted with mesh no larger than 1 inch until such time as hydrocarbons can be removed. Hydrocarbon removal will also take place prior to the closure of the pit, unless authorization is provided for disposal via alternative pit closure methods (e.g. solidification).

The reserve and/or fracture stimulation pit will be lined with a synthetic material 20-mil or thicker, The liner will be installed over smooth fill subgrade that is free of pockets, loose rocks, or other materials (i.e. sand, sifted dirt, bentonite, straw, etc.) that could damage the liner. Any additional pits necessary to subsequent operations, such as temporary flare or workover pits, will be contained within the originally approved well pad and disturbance boundaries. Such temporary pits will be backfilled and reclaimed within 180 days of completion of work at a well location.

For the protection of livestock and wildlife, all open pits and cellars will be fenced/covered to prevent wildlife or livestock entry. Total height of pit fencing will be at least 42 inches and corner posts will be cemented and/or braced in such a manner as to keep the fence tight at all times. Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.

Pits containing drilling cuttings, mud, and/or completions fluids will be allowed to dry. Any free fluids remaining after six (6) months from reaching total depth, date of completion, and/or determination of inactivity will be removed (as weather conditions allow) to an approved site and the pit reclaimed. Additional drying methods may include fly-ash solidification or sprinkler evaporation. Installation and operation of any sprinklers, pumps, and equipment will ensure that water spray or mist does not drift. Reserve pit liners will be cut off or folded as near to the mud surface as possible and as safety considerations allow and buried on location.

No garbage or non-exempt substances as defined by Resource Conservation and Recovery Act (RCRA) subtitle C will be placed in the reserve pit. All refuse generated during construction, drilling, completion, and well testing activities will be contained in an enclosed receptacle, removed from the drill locations promptly, and transported to an approved disposal facility.

Portable, self-contained chemical toilets and/or sewage processing facilities will be provided for human waste disposal. Upon completion of operations, or as required, the toilet holding tanks will be pumped and the contents disposed of in an approved sewage disposal facility. All applicable regulations pertaining to disposal of human and solid waste will be observed.

Any undesirable event, accidental release, or in excess of reportable quantities will be managed according to the notification requirements of UDOGMs “Reporting Oil and Gas Undesirable Events” rule, and, where State wells are participatory to a Federal agreement, according to NTL-3A.

**Materials Management**

Hazardous materials above reportable quantities will not be produced by drilling or completing proposed wells or constructing the pipelines/facilities. The term "hazardous materials" as used here means: (1) any substance, pollutant, or containment listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended 42 U.S.C. 9601 et seq., and the regulations issued under CERCLA; and (2) any hazardous waste as defined in RCRA of 1976, as amended. In addition, no extremely hazardous substance, as defined in 40 CFR 355, in threshold planning quantities, would be used, produced, stored, transported, or disposed of while producing any well.

Chemicals subject to reporting under Title III of the Superfund Amendments and Reauthorization Act (SARA) in quantities of 10,000 pounds or more may be produced and/or stored at production facilities and may be kept in limited quantities on drilling sites and well locations for short periods of time during drilling or completion activities.

**G. Ancillary Facilities:**

None are anticipated.

**H. Well Site Layout (see Well Pad Design Summary):**

The location, orientation and aerial extent of each drill pad; reserve/completion/flare pit; access road ingress/egress points, drilling rig, dikes/ditches, existing wells/infrastructure; proposed cuts and fills; and topsoil and spoil material stockpile locations are depicted on the exhibits for each project, where applicable. Site-specific conditions may require slight deviation in actual equipment and facility layout; however, the area of disturbance, as described in the survey, will not be exceeded.

Coordinates are provided in the National Spatial Reference System, North American Datum, 1983 (NAD83) or latest edition. Distances are depicted on each plat to the nearest two adjacent section lines.

**I. Plans for Reclamation of the Surface:**

Surface reclamation will be undertaken in two phases: interim and final. Interim reclamation is conducted following well completion and extends through the period of production. This reclamation is for the area of the well pad that is not required for production activities. Final reclamation is conducted following well plugging/conversion and/or facility abandonment processes.

Reclamation activities in both phases may include but are not limited to: re-contouring or re-configuration of topographic surfaces, restoration of drainage systems, segregation of spoils materials, minimizing surface disturbance, re-evaluating backfill requirements, pit closure, topsoil redistribution, soil treatments, seeding and weed control.

**Interim Reclamation**

Interim reclamation includes pit closure, re-contouring (where possible), soil bed preparation, topsoil placement, seeding, and/or weed control.

Interim re-contouring involves bringing all construction material from cuts and fills back onto the well pad and site and reestablishing the natural contours where desirable and practical. Fill and stockpiled spoils no longer necessary to the operation will be spread on the cut slopes and covered with stockpiled topsoil. All stockpiled top soils will be used for interim reclamation where practical to maintain soil viability. Where possible, the land surface will be left “rough” after re-contouring to ensure that the maximum surface area will be available to support the reestablishment of vegetative cover.

A reserve pit, upon being allowed to dry, will be backfilled and compacted with cover materials that are void of any topsoil, vegetation, large stones, rocks or foreign objects. Soils that are moisture laden, saturated, or partially/completely frozen will not be used for backfill or cover. The pit area will be mounded to allow for settling and to promote positive surface drainage away from the pit.

**Final Reclamation**

Final reclamation will be performed for newly drilled unproductive wells and/or at the end of the life of a productive well. As soon as practical after the conclusion of drilling and testing operations, unproductive drill holes will be plugged and abandoned (P&A). Site and road reclamation will commence following plugging. In no case will reclamation at non-producing locations be initiated later than six (6) months from the date a well is plugged. A joint inspection of the disturbed area to be reclaimed may be requested by APC/KMG. The primary purpose of this inspection will be to review the existing conditions, or agree upon a revised final reclamation and abandonment plan. A Notice of Intent to Abandon will be filed for final recommendations regarding surface reclamation.

After plugging, all wellhead equipment that is no longer needed will be removed, and the well site will be reclaimed. Final contouring will blend with and follow as closely as practical the natural terrain and contours of the original site and surrounding areas. After re-contouring, final grading will be conducted over the entire surface of the well site and access road. Where practical, the area will be ripped to a depth of 18 to 24 inches on 18 to 24-inch centers and surface materials will be pitted with small depressions to form longitudinal depressions 12 to 18 inches deep perpendicular to the natural flow of water.

All unnecessary surface equipment and structures (e.g. cattle guards) and water control structures (e.g. culverts, drainage pipes) not needed to facilitate successful reclamation will be removed during final reclamation. Roads that will be reclaimed will be ripped to a depth of 18 inches where practical, re-contoured to approximate the original contour of the ground and seeded.

Upon successfully completing reclamation of a P&A location, a Final Abandonment Notice will be submitted to UDOGM.

**Seeding and Measures Common to Interim and Final Reclamation**

Reclaimed areas may be fenced to exclude grazing and encourage re-vegetation.

On slopes where severe erosion can become a problem and the use of machinery is not practical, seed will be hand broadcast and raked with twice the specified amount of seed. The slope will be stabilized using materials specifically designed to prevent erosion on steep slopes and hold seed in place so vegetation can become permanently established. These materials will include, but are not limited to, erosion control blankets and bonded fiber matrix at a rate to achieve a minimum of 80 percent soil coverage.

Seeding will occur year-round as conditions allow. Seed mixes appropriate to the native plant community as determined and specified for each project location based on the site specific soils will be used for re-vegetation. The site specific seed mix will be provided by SITLA.

**J. Surface/Mineral Ownership:**

SITLA
675 East 500 South, Suite 500
Salt Lake City, UT 84102

**K. Other Information:**

None

**M. Lessee's or Operators' Representative & Certification:**

Danielle Piernot
Regulatory Analyst I
Kerr-McGee Oil & Gas Onshore LP
PO Box 173779
Denver, CO 80217-3779
(720) 929-6156

Tommy Thompson
General Manager, Drilling
Kerr-McGee Oil & Gas Onshore LP
PO Box 173779
Denver, CO 80217-3779
(720) 929-6724

Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

Bond coverage for State lease activities is provided by State Surety Bond 22013542, and for applicable Federal lease activities and pursuant to 43 CFR 3104, by Bureau of Land Management Nationwide Bond WYB000291.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Danielle Piernot

Danielle Piernot

December 13, 2010
Date

'APIWellNo:43047513640000'

Kerr-McGee Oil & Gas Onshore LP
PO Box 173779
Denver, CO 80217-3779

October 27, 2010

Ms. Diana Mason
Division of Oil, Gas and Mining
P.O. Box 145801
Salt Lake City, UT 84114-6100

Re: Directional Drilling R649-3-11
NBU 921-35J1BS
T9S-R21E
Section 35: SWNE (Surf), NWSE (Bottom)
Surface: 2053' FNL, 1613' FEL
Bottom Hole: 2419' FSL, 1824' FEL
Uintah County, Utah

Dear Ms. Mason:

Pursuant to the filing of Kerr-McGee Oil & Gas Onshore LP's (Kerr-McGee) Application for Permit to Drill regarding the above referenced well, we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling.

- Kerr-McGee's NBU 921-35J1BS is located within the Natural Buttes Unit area.
- Kerr-McGee is permitting this well as a directional well in order to minimize surface disturbance. Locating the well at the surface location and directionally drilling from this location, Kerr-McGee will be able to utilize the existing road and pipelines in the area.
- Furthermore, Kerr-McGee certifies that it is the sole working interest owner within 460 feet of the entire directional well bore.

Therefore, based on the above stated information, Kerr-McGee Oil & Gas Onshore LP requests the permit be granted pursuant to R649-3-11.

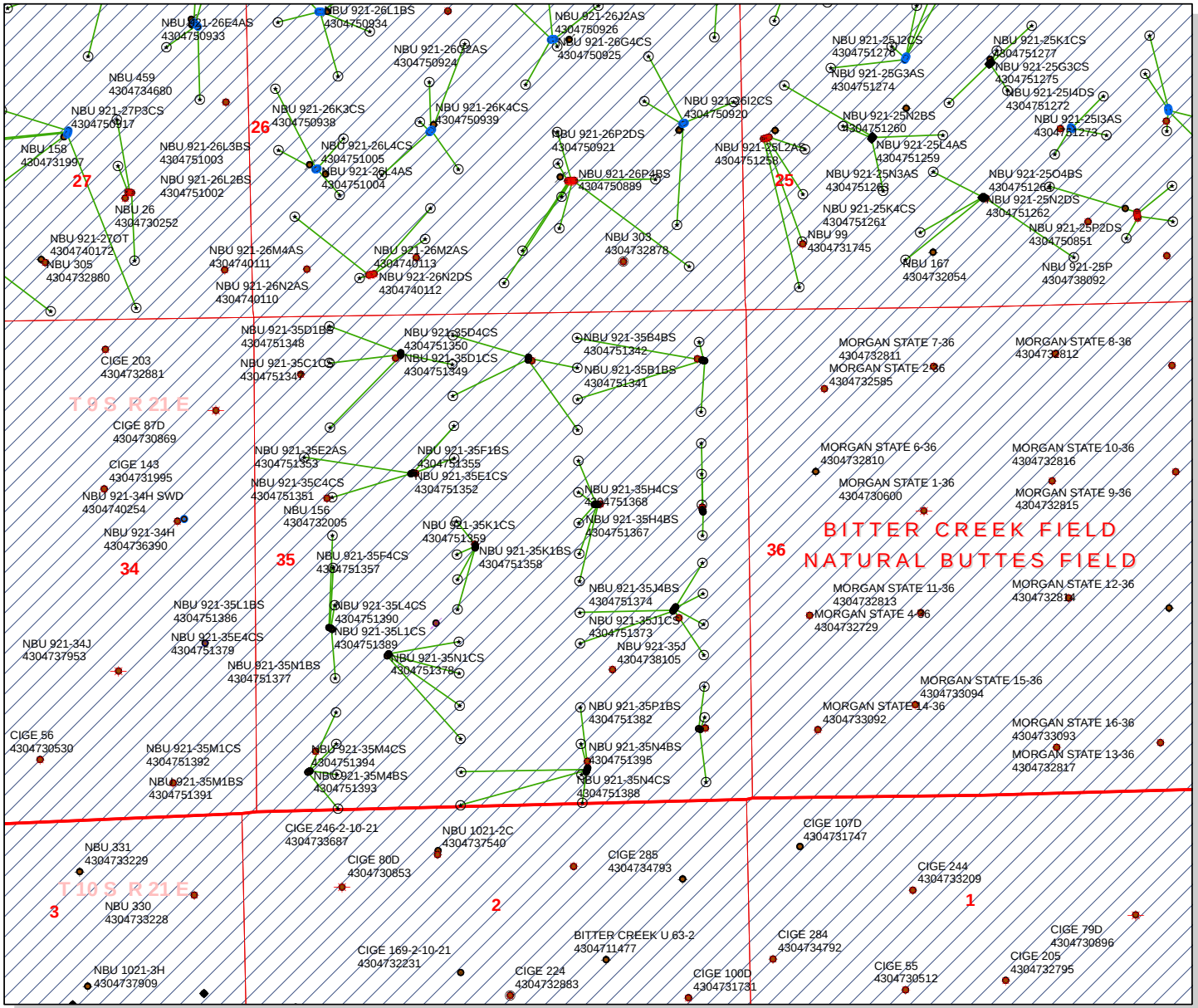
Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP

Joe Matney

Joe Matney
Sr. Staff Landman

'APIWellNo:43047513640000'




**API Number: 4304751364**

**Well Name: NBU 921-35J1BS**

**Township 09.0 S Range 21.0 E Section 35**

**Meridian: SLBM**

Operator: KERR-MCGEE OIL & GAS ONSHORE, L.P.

Map Prepared:
Map Produced by Diana Mason

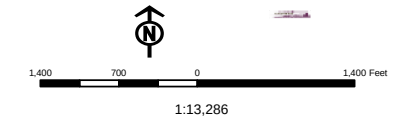
**Units**

**STATUS**
- ACTIVE
- EXPLORATORY
- GAS STORAGE
- NF PP OIL
- NF SECONDARY
- PI OIL
- PP GAS
- PP GEOTHERML
- PP OIL
- SECONDARY
- TERMINATED

**Fields**
- Sections
- Township
- Bottom Hole Location - AGRC

**Wells Query**
- <all other values>

**Status**
- APD - Aproved Permit
- DRL - Spuded (Drilling Commenced)
- GIW - Gas Injection
- GS - Gas Storage
- LA - Location Abandoned
- LOC - New Location
- OPS - Operation Suspended
- PA - Plugged Abandoned
- PGW - Producing Gas Well
- POW - Producing Oil Well
- RET - Returned APD
- SGW - Shut-in Gas Well
- SOW - Shut-in Oil Well
- TA - Temp. Abandoned
- TW - Test Well
- WDW - Water Disposal
- WIW - Water Injection Well
- WSW - Water Supply Well


1:13,286

'APIWellNo:43047513640000'

# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

**Utah State Office**
**P.O. Box 45155**
**Salt Lake City, Utah 84145-0155**

**IN REPLY REFER TO:**
**3160**
**(UT-922)**

December 1, 2010

Memorandum

To: Assistant District Manager Minerals, Vernal District

From: Michael Coulthard, Petroleum Engineer

Subject: 2010 Plan of Development Natural Buttes Unit
Uintah County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2010 within the Natural Buttes Unit, Uintah County, Utah.

| API # | WELL NAME | LOCATION |
|---|---|---|

(Proposed PZ WASATCH-MESA VERDE)

**NBU 921-35F2 Pad**

43-047-51355 NBU 921-35F1BS Sec 35 T09S R21E 1684 FNL 1709 FWL
BHL Sec 35 T09S R21E 1531 FNL 2146 FWL

**NBU 921-35F4 PAD**

43-047-51356 NBU 921-35F4BS Sec 35 T09S R21E 2473 FNL 2358 FWL
BHL Sec 35 T09S R21E 2210 FNL 2158 FWL

43-047-51357 NBU 921-35F4CS Sec 35 T09S R21E 2483 FNL 2358 FWL
BHL Sec 35 T09S R21E 2567 FNL 2159 FWL

43-047-51358 NBU 921-35K1BS Sec 35 T09S R21E 2493 FNL 2358 FWL
BHL Sec 35 T09S R21E 2484 FSL 2161 FWL

43-047-51359 NBU 921-35K1CS Sec 35 T09S R21E 2503 FNL 2357 FWL
BHL Sec 35 T09S R21E 2163 FSL 2155 FWL

**NBU 921-35G Pad**

43-047-51360 NBU 921-35G1BS Sec 35 T09S R21E 2053 FNL 1633 FEL
BHL Sec 35 T09S R21E 1583 FNL 1819 FEL

43-047-51361 NBU 921-35G1CS Sec 35 T09S R21E 2053 FNL 1653 FEL
BHL Sec 35 T09S R21E 1916 FNL 1820 FEL

43-047-51362 NBU 921-35G4BS Sec 35 T09S R21E 2053 FNL 1643 FEL
BHL Sec 35 T09S R21E 2250 FNL 1822 FEL

'APIWellNo:43047513640000'



| API # | WELL NAME | LOCATION |
|---|---|---|
| (Proposed PZ WASATCH-MESA VERDE) | | |
| 43-047-51363 | NBU 921-35G4CS | Sec 35 T09S R21E 2053 FNL 1623 FEL |
| | | BHL Sec 35 T09S R21E 2583 FNL 1823 FEL |
| 43-047-51364 | NBU 921-35J1BS | Sec 35 T09S R21E 2053 FNL 1613 FEL |
| | | BHL Sec 35 T09S R21E 2419 FSL 1824 FEL |
| **NBU 921-35H PAD** | | |
| 43-047-51365 | NBU 921-35H1BS | Sec 35 T09S R21E 2143 FNL 0486 FEL |
| | | BHL Sec 35 T09S R21E 1411 FNL 0494 FEL |
| 43-047-51366 | NBU 921-35H1CS | Sec 35 T09S R21E 2133 FNL 0490 FEL |
| | | BHL Sec 35 T09S R21E 1743 FNL 0495 FEL |
| 43-047-51367 | NBU 921-35H4BS | Sec 35 T09S R21E 2124 FNL 0493 FEL |
| | | BHL Sec 35 T09S R21E 2075 FNL 0495 FEL |
| 43-047-51368 | NBU 921-35H4CS | Sec 35 T09S R21E 2152 FNL 0483 FEL |
| | | BHL Sec 35 T09S R21E 2407 FNL 0495 FEL |
| **NBU 921-35I PAD** | | |
| 43-047-51369 | NBU 921-35I1BS | Sec 35 T09S R21E 2106 FSL 0794 FEL |
| | | BHL Sec 35 T09S R21E 2572 FSL 0496 FEL |
| 43-047-51370 | NBU 921-35I1CS | Sec 35 T09S R21E 2098 FSL 0800 FEL |
| | | BHL Sec 35 T09S R21E 2240 FSL 0496 FEL |
| 43-047-51371 | NBU 921-35I4BS | Sec 35 T09S R21E 2090 FSL 0806 FEL |
| | | BHL Sec 35 T09S R21E 1908 FSL 0496 FEL |
| 43-047-51372 | NBU 921-35I4CS | Sec 35 T09S R21E 2082 FSL 0811 FEL |
| | | BHL Sec 35 T09S R21E 1577 FSL 0497 FEL |
| 43-047-51373 | NBU 921-35J1CS | Sec 35 T09S R21E 2074 FSL 0817 FEL |
| | | BHL Sec 35 T09S R21E 2086 FSL 1825 FEL |
| 43-047-51374 | NBU 921-35J4BS | Sec 35 T09S R21E 2066 FSL 0823 FEL |
| | | BHL Sec 35 T09S R21E 1752 FSL 1826 FEL |
| **NBU 921-35K PAD** | | |
| 43-047-51375 | NBU 921-35K4BS | Sec 35 T09S R21E 1710 FSL 1409 FWL |
| | | BHL Sec 35 T09S R21E 1814 FSL 2165 FWL |
| 43-047-51376 | NBU 921-35K4CS | Sec 35 T09S R21E 1702 FSL 1403 FWL |
| | | BHL Sec 35 T09S R21E 1469 FSL 2163 FWL |
| 43-047-51377 | NBU 921-35N1BS | Sec 35 T09S R21E 1694 FSL 1397 FWL |
| | | BHL Sec 35 T09S R21E 1124 FSL 2161 FWL |
| 43-047-51378 | NBU 921-35N1CS | Sec 35 T09S R21E 1686 FSL 1392 FWL |
| | | BHL Sec 35 T09S R21E 0771 FSL 2162 FWL |

'APIWellNo:43047513640000'



| API # | WELL NAME | LOCATION |
|---|---|---|
| **NBU 921-35L PAD** | | |
| 43-047-51379 | NBU 921-35E4CS | Sec 35 T09S R21E 2016 FSL 0768 FWL |
| | | BHL Sec 35 T09S R21E 2343 FNL 0823 FWL |
| 43-047-51386 | NBU 921-35L1BS | Sec 35 T09S R21E 2013 FSL 0778 FWL |
| | | BHL Sec 35 T09S R21E 2658 FSL 0826 FWL |
| 43-047-51389 | NBU 921-35L1CS | Sec 35 T09S R21E 2009 FSL 0787 FWL |
| | | BHL Sec 35 T09S R21E 2255 FSL 0835 FWL |
| 43-047-51390 | NBU 921-35L4CS | Sec 35 T09S R21E 2005 FSL 0796 FWL |
| | | BHL Sec 35 T09S R21E 1470 FSL 0832 FWL |
| **NBU 921-35P PAD** | | |
| 43-047-51380 | NBU 921-35P4CS | Sec 35 T09S R21E 0781 FSL 0557 FEL |
| | | BHL Sec 35 T09S R21E 0208 FSL 0489 FEL |
| 43-047-51381 | NBU 921-35P1CS | Sec 35 T09S R21E 0778 FSL 0547 FEL |
| | | BHL Sec 35 T09S R21E 0913 FSL 0497 FEL |
| 43-047-51382 | NBU 921-35P1BS | Sec 35 T09S R21E 0785 FSL 0566 FEL |
| | | BHL Sec 35 T09S R21E 1245 FSL 0497 FEL |
| **NBU 921-35O PAD** | | |
| 43-047-51383 | NBU 921-35O4CS | Sec 35 T09S R21E 0360 FSL 1780 FEL |
| | | BHL Sec 35 T09S R21E 0026 FSL 1826 FEL |
| 43-047-51384 | NBU 921-35O4BS | Sec 35 T09S R21E 0370 FSL 1777 FEL |
| | | BHL Sec 35 T09S R21E 0336 FSL 1833 FEL |
| 43-047-51385 | NBU 921-35O1CS | Sec 35 T09S R21E 0398 FSL 1766 FEL |
| | | BHL Sec 35 T09S R21E 0674 FSL 1828 FEL |
| 43-047-51387 | NBU 921-35O1BS | Sec 35 T09S R21E 0407 FSL 1763 FEL |
| | | BHL Sec 35 T09S R21E 1059 FSL 1833 FEL |
| 43-047-51388 | NBU 921-35N4CS | Sec 35 T09S R21E 0379 FSL 1773 FEL |
| | | BHL Sec 35 T09S R21E 0051 FSL 2153 FWL |
| 43-047-51395 | NBU 921-35N4BS | Sec 35 T09S R21E 0388 FSL 1770 FEL |
| | | BHL Sec 35 T09S R21E 0410 FSL 2164 FWL |
| **NBU 921-35M PAD** | | |
| 43-047-51391 | NBU 921-35M1BS | Sec 35 T09S R21E 0469 FSL 0526 FWL |
| | | BHL Sec 35 T09S R21E 1096 FSL 0830 FWL |
| 43-047-51392 | NBU 921-35M1CS | Sec 35 T09S R21E 0474 FSL 0534 FWL |
| | | BHL Sec 35 T09S R21E 0760 FSL 0830 FWL |

'APIWellNo:43047513640000'



| API # | WELL NAME | LOCATION |
|---|---|---|
| 43-047-51393 | NBU 921-35M4BS | Sec 35 T09S R21E 0478 FSL 0543 FWL |
| | | BHL Sec 35 T09S R21E 0423 FSL 0831 FWL |
| 43-047-51394 | NBU 921-35M4CS | Sec 35 T09S R21E 0464 FSL 0517 FWL |
| | | BHL Sec 35 T09S R21E 0055 FSL 0834 FWL |

This office has no objection to permitting the wells at this time.

Michael L. Coulthard

Digitally signed by Michael L. Coulthard
DN: cn=Michael L. Coulthard, o=Bureau of Land Management, ou=Branch of Minerals, email=Michael_Coulthard@blm.gov, c=US
Date: 2010.12.01 10:03:00 -07'00'

bcc: File - Natural Buttes Unit
Division of Oil Gas and Mining
Central Files
Agr. Sec. Chron
Fluid Chron

MCoulthard:mc:12-1-10

**BOPE REVIEW KERR-MCGEE OIL & GAS ONSHORE, L.P. NBU 921-35J1BS 43047513640000**

| Well Name | KERR-MCGEE OIL & GAS ONSHORE, L.P. NBU 921-35J1BS 4304751364 | | | |
|---|---|---|---|---|
| String | Surf | Prod | | |
| Casing Size(") | 8.625 | 4.500 | | |
| Setting Depth (TVD) | 2313 | 9697 | | |
| Previous Shoe Setting Depth (TVD) | 40 | 2313 | | |
| Max Mud Weight (ppg) | 8.3 | 12.0 | | |
| BOPE Proposed (psi) | 500 | 5000 | | |
| Casing Internal Yield (psi) | 3390 | 7780 | | |
| Operators Max Anticipated Pressure (psi) | 5915 | 11.7 | | |

| Calculations | Surf String | 8.625 | " | |
|---|---|---|---|---|
| Max BHP (psi) | .052*Setting Depth*MW= | 998 | | |
| | | | BOPE Adequate For Drilling And Setting Casing at Depth? | |
| MASP (Gas) (psi) | Max BHP-(0.12*Setting Depth)= | 720 | NO | air drill |
| MASP (Gas/Mud) (psi) | Max BHP-(0.22*Setting Depth)= | 489 | YES | OK |
| | | | *Can Full Expected Pressure Be Held At Previous Shoe? | |
| Pressure At Previous Shoe | Max BHP-.22*(Setting Depth - Previous Shoe Depth)= | 498 | NO | Reasonable depth in area |
| Required Casing/BOPE Test Pressure= | | 2313 | psi | |
| *Max Pressure Allowed @ Previous Casing Shoe= | | 40 | psi *Assumes 1psi/ft frac gradient | |

| Calculations | Prod String | 4.500 | " | |
|---|---|---|---|---|
| Max BHP (psi) | .052*Setting Depth*MW= | 6051 | | |
| | | | BOPE Adequate For Drilling And Setting Casing at Depth? | |
| MASP (Gas) (psi) | Max BHP-(0.12*Setting Depth)= | 4887 | YES | |
| MASP (Gas/Mud) (psi) | Max BHP-(0.22*Setting Depth)= | 3918 | YES | OK |
| | | | *Can Full Expected Pressure Be Held At Previous Shoe? | |
| Pressure At Previous Shoe | Max BHP-.22*(Setting Depth - Previous Shoe Depth)= | 4427 | NO | Reasonable |
| Required Casing/BOPE Test Pressure= | | 5000 | psi | |
| *Max Pressure Allowed @ Previous Casing Shoe= | | 2313 | psi *Assumes 1psi/ft frac gradient | |

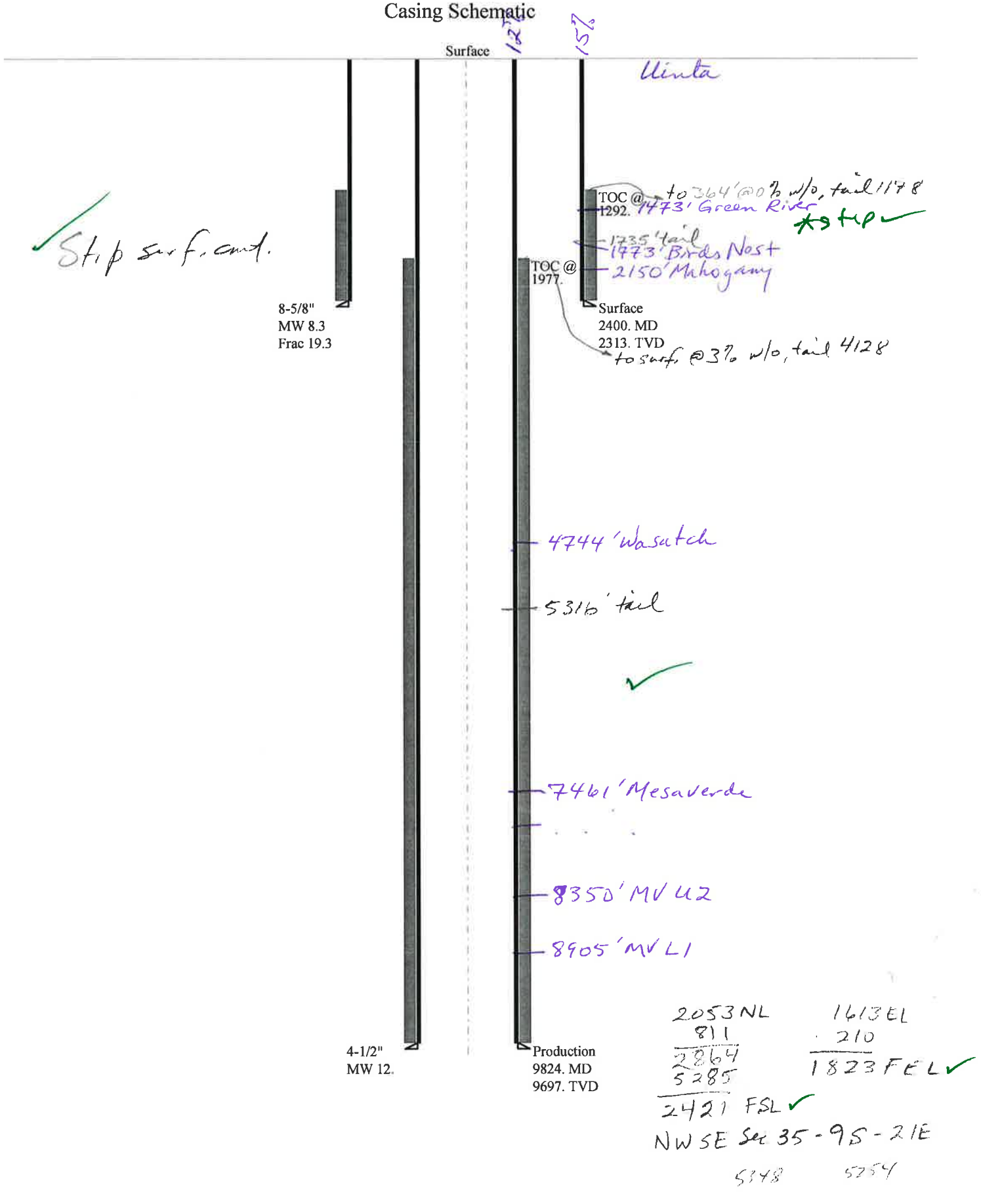
| Calculations | String | | " | |
|---|---|---|---|---|
| Max BHP (psi) | .052*Setting Depth*MW= | | | |
| | | | BOPE Adequate For Drilling And Setting Casing at Depth? | |
| MASP (Gas) (psi) | Max BHP-(0.12*Setting Depth)= | | NO | |
| MASP (Gas/Mud) (psi) | Max BHP-(0.22*Setting Depth)= | | NO | |
| | | | *Can Full Expected Pressure Be Held At Previous Shoe? | |
| Pressure At Previous Shoe | Max BHP-.22*(Setting Depth - Previous Shoe Depth)= | | NO | |
| Required Casing/BOPE Test Pressure= | | | psi | |
| *Max Pressure Allowed @ Previous Casing Shoe= | | | psi *Assumes 1psi/ft frac gradient | |

| Calculations | String | | " | |
|---|---|---|---|---|
| Max BHP (psi) | .052*Setting Depth*MW= | | | |
| | | | BOPE Adequate For Drilling And Setting Casing at Depth? | |
| MASP (Gas) (psi) | Max BHP-(0.12*Setting Depth)= | | NO | |
| MASP (Gas/Mud) (psi) | Max BHP-(0.22*Setting Depth)= | | NO | |
| | | | *Can Full Expected Pressure Be Held At Previous Shoe? | |
| Pressure At Previous Shoe | Max BHP-.22*(Setting Depth - Previous Shoe Depth)= | | NO | |
| Required Casing/BOPE Test Pressure= | | | psi | |
| *Max Pressure Allowed @ Previous Casing Shoe= | | | psi *Assumes 1psi/ft frac gradient | |

'APIWellNo:43047513640000'

# 43047513640000 NBU 921-35J1BS

## Casing Schematic




Stip surf. cmt.

stip

2053 NL
811
2864
5285
2421 FSL

1613 EL
210
1823 FEL

NW SE Sec 35 - 9S - 21E

5348 5354

'APIWellNo:43047513640000'

| | |
|---|---|
| Well name: | **43047513640000 NBU 921-35J1BS** |
| Operator: | **KERR-MCGEE OIL & GAS ONSHORE, L.P.** |
| String type: | Surface |
| Project ID: | 43-047-51364 |
| Location: | UINTAH COUNTY |

**Design parameters:**

**Collapse**
Mud weight: 8.330 ppg
Design is based on evacuated pipe.

**Burst**
Max anticipated surface pressure: 2,112 psi
Internal gradient: 0.120 psi/ft
Calculated BHP 2,390 psi

No backup mud specified.

**Minimum design factors:**

**Collapse:**
Design factor 1.125

**Burst:**
Design factor 1.00

**Tension:**
8 Round STC: 1.80 (J)
8 Round LTC: 1.70 (J)
Buttress: 1.60 (J)
Premium: 1.50 (J)
Body yield: 1.50 (B)

Tension is based on air weight.
Neutral point: 2,098 ft

**Environment:**
H2S considered? No
Surface temperature: 74 °F
Bottom hole temperature: 106 °F
Temperature gradient: 1.40 °F/100ft
Minimum section length: 100 ft

Cement top: 1,292 ft

**Directional Info - Build & Hold**
Kick-off point 300 ft
Departure at shoe: 549 ft
Maximum dogleg: 2 °/100ft
Inclination at shoe: 20 °

**Re subsequent strings:**
Next setting depth: 9,697 ft
Next mud weight: 12.000 ppg
Next setting BHP: 6,045 psi
Fracture mud wt: 19.250 ppg
Fracture depth: 2,400 ft
Injection pressure: 2,400 psi

| Run Seq | Segment Length (ft) | Size (in) | Nominal Weight (lbs/ft) | Grade | End Finish | True Vert Depth (ft) | Measured Depth (ft) | Drift Diameter (in) | Est. Cost ($) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2400 | 8.625 | 28.00 | I-55 | LT&C | 2313 | 2400 | 7.892 | 95036 |

| Run Seq | Collapse Load (psi) | Collapse Strength (psi) | Collapse Design Factor | Burst Load (psi) | Burst Strength (psi) | Burst Design Factor | Tension Load (kips) | Tension Strength (kips) | Tension Design Factor |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1001 | 1880 | 1.878 | 2390 | 3390 | 1.42 | 64.8 | 348 | 5.37 J |

Prepared by: Helen Sadik-Macdonald
Div of Oil,Gas & Mining
Phone: 801 538-5357
FAX: 801-359-3940
Date: December 13,2010
Salt Lake City, Utah

Remarks:
Collapse is based on a vertical depth of 2313 ft, a mud weight of 8.33 ppg The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.
Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

*Engineering responsibility for use of this design will be that of the purchaser.*

'APIWellNo:43047513640000'

| | |
|---|---|
| Well name: | **43047513640000 NBU 921-35J1BS** |
| Operator: | **KERR-MCGEE OIL & GAS ONSHORE, L.P.** |
| String type: | Production |
| Project ID: | 43-047-51364 |
| Location: | UINTAH COUNTY |

**Design parameters:**

**Collapse**
- Mud weight: 12.000 ppg
- Internal fluid density: 1.000 ppg

**Burst**
- Max anticipated surface pressure: 3,911 psi
- Internal gradient: 0.220 psi/ft
- Calculated BHP 6,045 psi

No backup mud specified.

**Minimum design factors:**

**Collapse:**
- Design factor 1.125

**Burst:**
- Design factor 1.00

**Tension:**
- 8 Round STC: 1.80 (J)
- 8 Round LTC: 1.80 (J)
- Buttress: 1.60 (J)
- Premium: 1.50 (J)
- Body yield: 1.60 (B)

Tension is based on air weight.
Neutral point: 8,085 ft

Estimated cost: 128,679 ($)

**Environment:**
- H2S considered? No
- Surface temperature: 74 °F
- Bottom hole temperature: 210 °F
- Temperature gradient: 1.40 °F/100ft
- Minimum section length: 100 ft

Cement top: 1,977 ft

**Directional Info - Build & Hold**
- Kick-off point 300 ft
- Departure at shoe: 838 ft
- Maximum dogleg: 2 °/100ft
- Inclination at shoe: 0 °

| Run Seq | Segment Length (ft) | Size (in) | Nominal Weight (lbs/ft) | Grade | End Finish | True Vert Depth (ft) | Measured Depth (ft) | Drift Diameter (in) | Est. Cost ($) |
|---|---|---|---|---|---|---|---|---|---|
| 2 | 9700 | 4.5 | 11.60 | I-80 | LT&C | 9573 | 9700 | 3.875 | 128040 |
| 1 | 124 | 4.5 | 11.60 | HCP-110 | Buttress | 9697 | 9824 | 3.875 | 639 |

| Run Seq | Collapse Load (psi) | Collapse Strength (psi) | Collapse Design Factor | Burst Load (psi) | Burst Strength (psi) | Burst Design Factor | Tension Load (kips) | Tension Strength (kips) | Tension Design Factor |
|---|---|---|---|---|---|---|---|---|---|
| 2 | 5470 | 6351 | 1.161 | 6017 | 7780 | 1.29 | 112.5 | 212 | 1.88 J |
| 1 | 5541 | 8650 | 1.561 | 6045 | 10690 | 1.77 | 1.4 | 367.2 | 99.99 B |

Prepared by: Helen Sadik-Macdonald, Div of Oil,Gas & Mining
Phone: 801 538-5357
FAX: 801-359-3940
Date: December 13,2010
Salt Lake City, Utah

Remarks:
Collapse is based on a vertical depth of 9697 ft, a mud weight of 12 ppg An internal gradient of .052 psi/ft was used for collapse from TD to
Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.
Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

*Engineering responsibility for use of this design will be that of the purchaser.*

'APIWellNo:43047513640000'

**From:** Jim Davis
**To:** Bonner, Ed; Hill, Brad; Mason, Diana
**CC:** Curry, Kristine; Danielle Piernot; Garrison, LaVonne; Hayden, Martha;...
**Date:** 12/22/2010 5:49 AM
**Subject:** Kerr McGee APD approvals in 9S 21E Sec 35
**Attachments:** KMG approvals 921-35 on 12.22.2010.xls

The following wells have been approved by SITLA under the following arch and paleo stipulations. This is a long list, so I'm attaching a spreadsheet with the same information.

A note on arch and paleo stipulations: Wells that have an arch note "non-significant site" do not need to be avoided or mitigated. Only those that say "needs to be avoided".

The paleo reports make recommendations for "spot paleo monitoring" or "full paleo monitoring". It is my understanding that Kerr McGee is taking these stipulations and doing full monitoring in either case, in an abundance of caution.

-Jim Davis

| Well Name | API | Paleo Stipulations | Arch Stipulations |
|---|---|---|---|
| Kerr-McGee's NBU 921-35A1BS | API #4304751339 | IPC 10-98 Spot Paleo Monitoring (U-07-MQ-1437b,i,p,s) | |
| Kerr-McGee's NBU 921-35A4CS | API #4304751340 | IPC 10-98 Spot Paleo Monitoring (U-07-MQ-1437b,i,p,s) | |
| Kerr-McGee's NBU 921-35B1BS | API #4304751341 | IPC 10-98 Spot Paleo Monitoring (U-07-MQ-1437b,i,p,s) | |
| Kerr-McGee's NBU 921-35B4BS | API #4304751342 | IPC 10-98 Spot Paleo Monitoring (U-07-MQ-1437b,i,p,s) | |
| Kerr-McGee's NBU 921-35B1CS | API #4304751343 | IPC 10-98 Spot Paleo Monitoring (U-07-MQ-1437b,i,p,s; eligible site 42Un6461, just south of proposed pipeline needs to be avoided) | |
| Kerr-McGee's NBU 921-35B4CS | API #4304751344 | IPC 10-98 Spot Paleo Monitoring (U-07-MQ-1437b,i,p,s; eligible site 42Un6461, just south of proposed pipeline needs to be avoided) | |
| Kerr-McGee's NBU 921-35C1BS | API #4304751345 | IPC 10-98 Spot Paleo Monitoring (U-07-MQ-1437b,i,p,s; eligible site 42Un6461, just south of proposed pipeline needs to be avoided) | |
| Kerr-McGee's NBU 921-35C4BS | API #4304751346 | IPC 10-98 Spot Paleo Monitoring (U-07-MQ-1437b,i,p,s; eligible site 42Un6461, just south of proposed pipeline needs to be avoided) | |
| Kerr-McGee's NBU 921-35C1CS | API #4304751347 | IPC 10-97 Full Paleo Monitoring (U-07-MQ-1437b,i,p,s) | |
| Kerr-McGee's NBU 921-35D1BS | API #4304751348 | IPC 10-97 Full Paleo Monitoring (U-07-MQ-1437b,i,p,s) | |
| Kerr-McGee's NBU 921-35D1CS | API #4304751349 | IPC 10-97 Full Paleo Monitoring (U-07-MQ-1437b,i,p,s) | |
| Kerr-McGee's NBU 921-35D4CS | API #4304751350 | IPC 10-97 Full Paleo Monitoring (U-07-MQ-1437b,i,p,s) | |
| Kerr-McGee's NBU 921-35C4CS | API #4304751351 | IPC 10-97 Full Paleo Monitoring (U-07-MQ-1437b,i,p,s) | |
| Kerr-McGee's NBU 921-35E1CS | API #4304751352 | IPC 10-97 Full Paleo Monitoring (U-07-MQ-1437b,i,p,s) | |
| Kerr-McGee's NBU 921-35E2AS | API #4304751353 | IPC 10-97 Full Paleo Monitoring (U-07-MQ-1437b,i,p,s) | |
| Kerr-McGee's NBU 921-35F1BS | API #4304751355 | IPC 10-97 Full Paleo Monitoring (U-07-MQ-1437b,i,p,s) | |
| Kerr-McGee's NBU 921-35F4BS | API #4304751356 | IPC 10-97 Full Paleo Monitoring (U-07-MQ-1437b,i,p,s) | |
| Kerr-McGee's NBU 921-35F4CS | API #4304751357 | IPC 10-97 Full Paleo Monitoring (U-07-MQ-1437b,i,p,s) | |
| Kerr-McGee's NBU 921-35K1BS | API #4304751358 | IPC 10-97 Full Paleo Monitoring (U-07- | |

'APIWellNo:43047513640000'

MQ-1437b,i,p,s)
Kerr-McGee's NBU 921-35K1CS API #4304751359 IPC 10-97 Full Paleo Monitoring (U-07-MQ-1437b,i,p,s)
Kerr-McGee's NBU 921-35G1BS API #4304751360 IPC 10-98 Spot Paleo Monitoring (U-07-MQ-1437b,i,p,s; 1 non-significant site, 42Un2395, adjacent to the road)
Kerr-McGee's NBU 921-35G1CS API #4304751361 IPC 10-98 Spot Paleo Monitoring (U-07-MQ-1437b,i,p,s; 1 non-significant site, 42Un2395, adjacent to the road)
Kerr-McGee's NBU 921-35G4BS API #4304751362 IPC 10-98 Spot Paleo Monitoring (U-07-MQ-1437b,i,p,s; 1 non-significant site, 42Un2395, adjacent to the road)
Kerr-McGee's NBU 921-35G4CS API #4304751363 IPC 10-98 Spot Paleo Monitoring (U-07-MQ-1437b,i,p,s; 1 non-significant site, 42Un2395, adjacent to the road)
Kerr-McGee's NBU 921-35J1S API #4304751364 IPC 10-98 Spot Paleo Monitoring (U-07-MQ-1437b,i,p,s; 1 non-significant site, 42Un2395, adjacent to the road)
Kerr-McGee's NBU 921-35H1BS API #4304751365 IPC 10-98 Spot Paleo Monitoring (U-07-MQ-1437b,i,p,s)
Kerr-McGee's NBU 921-35H1CS API #4304751366 IPC 10-98 Spot Paleo Monitoring (U-07-MQ-1437b,i,p,s)
Kerr-McGee's NBU 921-35H4BS API #4304751367 IPC 10-98 Spot Paleo Monitoring (U-07-MQ-1437b,i,p,s)
Kerr-McGee's NBU 921-35H4CS API #4304751368 IPC 10-98 Spot Paleo Monitoring (U-07-MQ-1437b,i,p,s)
Kerr-McGee's NBU 921-35I1BS API #4304751369 IPC 10-100 Full Paleo Monitoring (U-07-MQ-1437b,i,p,s)
Kerr-McGee's NBU 921-35I1CS API #4304751370 IPC 10-100 Full Paleo Monitoring (U-07-MQ-1437b,i,p,s)
Kerr-McGee's NBU 921-35I4BS API #4304751371 IPC 10-100 Full Paleo Monitoring (U-07-MQ-1437b,i,p,s)
Kerr-McGee's NBU 921-35I4CS API #4304751372 IPC 10-100 Full Paleo Monitoring (U-07-MQ-1437b,i,p,s)
Kerr-McGee's NBU 921-35J1CS API #4304751373 IPC 10-98 Spot Paleo Monitoring (U-07-MQ-1437b,i,p,s)
Kerr-McGee's NBU 921-35J4BS API #4304751374 IPC 10-100 Full Paleo Monitoring (U-07-MQ-1437b,i,p,s)
Kerr-McGee's NBU 921-35K4BS API #4304751375 IPC 10-99 Spot Paleo Monitoring (U-07-MQ-1437b,i,p,s)
Kerr-McGee's NBU 921-35K4CS API #4304751376 IPC 10-99 Spot Paleo Monitoring (U-07-MQ-1437b,i,p,s)
Kerr-McGee's NBU 921-35N1BS API #4304751377 IPC 10-99 Spot Paleo Monitoring (U-07-MQ-1437b,i,p,s)
Kerr-McGee's NBU 921-35N1CS API #4304751378 IPC 10-99 Spot Paleo Monitoring (U-07-MQ-1437b,i,p,s)
Kerr-McGee's NBU 921-35E4CS API #4304751379 IPC 10-99 Spot Paleo Monitoring (U-07-MQ-1437b,i,p,s)
Kerr-McGee's NBU 921-35P4CS API #4304751380 IPC 10-100 Full Paleo Monitoring (U-07-MQ-1437b,i,p,s)
Kerr-McGee's NBU 921-35P1CS API #4304751381 IPC 10-100 Full Paleo Monitoring (U-07-MQ-1437b,i,p,s)
Kerr-McGee's NBU 921-35P1BS API #4304751382 IPC 10-100 Full Paleo Monitoring (U-07-MQ-1437b,i,p,s)
Kerr-McGee's NBU 921-35O4CS API #4304751383 IPC 10-100 Full Paleo Monitoring (U-07-MQ-1437b,i,p,s; 1 non-significant site, 42Un1836, adjacent to pipeline)
Kerr-McGee's NBU 921-35O4BS API #4304751384 IPC 10-100 Full Paleo Monitoring (U-07-MQ-1437b,i,p,s; 1 non-significant site, 42Un1836, adjacent to pipeline)
Kerr-McGee's NBU 921-35O1CS API #4304751385 IPC 10-100 Full Paleo Monitoring (U-07-MQ-1437b,i,p,s; 1 non-significant site, 42Un1836, adjacent to pipeline)
Kerr-McGee's NBU 921-35L1BS API #4304751386 IPC 10-99 Spot Paleo Monitoring

'APIWellNo:43047513640000'

(U-07-MQ-1437b,i,p,s)
Kerr-McGee's NBU 921-35O1BS API #4304751387 IPC 10-100 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s; 1 non-significant site, 42Un1836, adjacent to pipeline)
Kerr-McGee's NBU 921-35N4CS API #4304751388 IPC 10-100 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s; 1 non-significant site, 42Un1836, adjacent to pipeline)
Kerr-McGee's NBU 921-35L1CS API #4304751389 IPC 10-99 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s)
Kerr-McGee's NBU 921-35L4CS API #4304751390 IPC 10-99 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s)
Kerr-McGee's NBU 921-35M1BS API #4304751391 IPC 10-99 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s)
Kerr-McGee's NBU 921-35M1CS API #4304751392 IPC 10-99 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s)
Kerr-McGee's NBU 921-35M4BS API #4304751393 IPC 10-99 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s)
Kerr-McGee's NBU 921-35M4CS API #4304751394 IPC 10-99 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s)
Kerr-McGee's NBU 921-35N4BS API #4304751395 IPC 10-100 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s; 1 non-significant site, 42Un1836, adjacent to pipeline)

# ON-SITE PREDRILL EVALUATION
## Utah Division of Oil, Gas and Mining

| | | | | | |
|---|---|---|---|---|---|
| **Operator** | KERR-MCGEE OIL & GAS ONSHORE, L.P. | | | | |
| **Well Name** | NBU 921-35J1BS | | | | |
| **API Number** | 43047513640000 | **APD No** | 3197 | **Field/Unit** | NATURAL BUTTES |
| **Location: 1/4,1/4** | SWNE **Sec** 35 **Tw** 9.0S **Rng** 21.0E | 2053 FNL | 1613 FEL | | |
| **GPS Coord (UTM)** | | **Surface Owner** | | | |

**Participants**

See other comments:

**Regional/Local Setting & Topography**

The general area is within the Natural Buttes Unit in the lower portion of the Sand Wash Drainage of Uintah, County, approximately 37 air miles and 44.3 road miles south of Vernal, Utah. Access is by State of Utah Highways, Uintah County and existing oilfield development roads to the site. Topography of the Sand Wash area is characterized by broad open flats dissected by numerous sub-drainages, which often become steep with ridges and draws with exposed sandstone layers. No perennial streams occur in the drainage. Individual draws or washes are ephemeral with spring runoff or flows from sometimes-intense summer rainstorms. No springs exist in the area. An occasional constructed pond occurs, furnishing water for antelope or livestock.

The NBU 921-35G pad will be created by significantly enlarging the existing pad of the CIGE 204 gas well. It will be enlarged in all directions. Five gas wells, to be directionally drilled, will be added. They are the NBU 921-35G1CS, NBU 921-35G4BS, NBU 921-35G1BS, MBU 921-35G4CS and NBU 921-35J1BS.The site is in moderately hilly terrain. A draw exists to the north and limits the expansion in this area. A hill to the south will be excavated for the reserve pit. On the northwest corner a short swale extends onto the site. It will be blocked with the topsoil stockpile. The access road at near Corner 2 will be changed. Here the edge of the pad will be beveled to provide a slope onto the pad for the road. A major tributary of Sand Wash is about 3/4 mile to the east of the site and the White River about 3 mile down drainage. The selected site appears to be suitable for enlarging a pad, drilling and operating the proposed wells and is the only site in the immediate area.

Both the surface and minerals are owned by SITLA.

**Surface Use Plan**

**Current Surface Use**
Grazing
Wildlfe Habitat
Existing Well Pad

| New Road Miles | Well Pad | Src Const Material | Surface Formation |
|---|---|---|---|
| 0 | **Width** 352 **Length** 465 | Onsite | UNTA |

**Ancillary Facilities** N

**Waste Management Plan Adequate?**

**Environmental Parameters**

**Affected Floodplains and/or Wetlands** N

**Flora / Fauna**

Vegetation is a poor desert shrub type, which includes rabbit brush, Indian ricegrass, stipa commata, greasewood, broom snakeweed, shadscale and halogeton.

Antelope, sheep during the winter, rabbits, coyotes, and small mammals, birds and raptors.

**Soil Type and Characteristics**

Surface soils are a shallow rocky sandy loam.

**Erosion Issues** N

**Sedimentation Issues** N

**Site Stability Issues** N

**Drainage Diverson Required?** N

**Berm Required?** N

**Erosion Sedimentation Control Required?** Y

On the northwest corner a short swale extends onto the site. It will be blocked with the topsoil stockpile.

**Paleo Survey Run?** Y **Paleo Potental Observed?** N **Cultural Survey Run?** Y **Cultural Resources?** N

**Reserve Pit**

| Site-Specific Factors | | Site Ranking | |
|---|---|---|---|
| **Distance to Groundwater (feet)** | 100 to 200 | 5 | |
| **Distance to Surface Water (feet)** | >1000 | 0 | |
| **Dist. Nearest Municipal Well (ft)** | >5280 | 0 | |
| **Distance to Other Wells (feet)** | | 20 | |
| **Native Soil Type** | Mod permeability | 10 | |
| **Fluid Type** | Fresh Water | 5 | |
| **Drill Cuttings** | Normal Rock | 0 | |
| **Annual Precipitation (inches)** | | 0 | |
| **Affected Populations** | | | |
| **Presence Nearby Utility Conduits** | Not Present | 0 | |
| | **Final Score** | 40 | Sensitivity Level |

**Characteristics / Requirements**

The proposed reserve pit is 120’ x 260’ x 12’ deep located in a cut on the southeast corner of the location. Kerr McGee plans a 30-mil liner with a double felt sub-liner.

**Closed Loop Mud Required?** N **Liner Required?** Y **Liner Thickness** 30 **Pit Underlayment Required?** Y

**Other Observations / Comments**

Floyd Bartlett (DOGM), Sheila Wopsock, Clay Einerson, Lovell Young, Grizz Oleen, Charles Chase, Colby Sutton, Doyle Holmes, Claudia Sass, (Kerr McGee), Mitch Batty, John Slaugh, (Timberline Engineering and Land Surveying), Jim Davis (SITLA) and Ben Williams, (UDWR).

Floyd Bartlett 11/30/2010

'APIWellNo:43047513640000'

| Evaluator | Date / Time |
| --- | --- |

# Application for Permit to Drill
# Statement of Basis



| APD No | API WellNo | Status | Well Type | Surf Owner | CBM |
|---|---|---|---|---|---|
| 3197 | 43047513640000 | LOCKED | GW | S | No |

| | | | |
|---|---|---|---|
| **Operator** | KERR-MCGEE OIL & GAS ONSHORE, L.P. | **Surface Owner-APD** | |
| **Well Name** | NBU 921-35J1BS | **Unit** | NATURAL BUTTES |
| **Field** | NATURAL BUTTES | **Type of Work** | DRILL |
| **Location** | SWNE 35 9S 21E S 2053 FNL 1613 FEL | GPS Coord (UTM) | 626820E 4427950N |

**Geologic Statement of Basis**

Kerr McGee proposes to set 2,400’ of surface casing at this location. The depth to the base of the moderately saline water at this location is estimated to be at a depth of 2,300'. A search of Division of Water Rights records shows one water well within a 10,000 foot radius of the center of Section 35. The well is listed as 2,640 feet deep and used for drilling water. The surface formation at this site is the Uinta Formation. The Uinta Formation is made up of interbedded shales and sandstones. The sandstones are mostly lenticular and discontinuous and should not be a significant source of useable ground water. The proposed casing and cement should adequately protect. Any usable ground water.

| Brad Hill | 12/15/2010 |
|---|---|
| **APD Evaluator** | **Date / Time** |

**Surface Statement of Basis**

The general area is within the Natural Buttes Unit in the lower portion of the Sand Wash Drainage of Uintah, County, approximately 37 air miles and 44.3 road miles south of Vernal, Utah. Access is by State of Utah Highways, Uintah County and existing oilfield development roads to the site. Topography of the Sand Wash area is characterized by broad open flats dissected by numerous sub-drainages, which often become steep with ridges and draws with exposed sandstone layers. No perennial streams occur in the drainage. Individual draws or washes are ephemeral with spring runoff or flows from sometimes-intense summer rainstorms. No springs exist in the area. An occasional constructed pond occurs, furnishing water for antelope or livestock.

The NBU 921-35G pad will be created by significantly enlarging the existing pad of the CIGE 204 gas well. It will be enlarged in all directions. Five gas wells, to be directionally drilled, will be added. They are the NBU 921-35G1CS, NBU 921-35G4BS, NBU 921-35G1BS, MBU 921-35G4CS and NBU 921-35J1BS.The site is in moderately hilly terrain. A draw exists to the north and limits the expansion in this area. A hill to the south will be excavated for the reserve pit. On the northwest corner a short swale extends onto the site. It will be blocked with the topsoil stockpile. The access road at near Corner 2 will be changed. Here the edge of the pad will be beveled to provide a slope onto the pad for the road. A major tributary of Sand Wash is about 3/4 mile to the east of the site and the White River about 3 mile down drainage. The selected site appears to be suitable for enlarging a pad, drilling and operating the proposed wells and is the only site in the immediate area.

Both the surface and minerals are owned by SITLA. Jim Davis represented SITLA at the pre-site investigation. Mr. Davis had no concerns pertaining to this location excepted as covered above. SITLA provided a seed mix to be used when reclaiming the site.

Ben Williams represented the Utah Division of Wildlife Resources. Mr. Williams stated the area is classified as crucial yearlong antelope habitat but recommended no restrictions for this species. No other wildlife will be significantly affected.

| Floyd Bartlett | 11/30/2010 |
|---|---|
| **Onsite Evaluator** | **Date / Time** |

'APIWellNo:43047513640000'



**Conditions of Approval / Application for Permit to Drill**

| Category | Condition |
|---|---|
| Pits | A synthetic liner with a minimum thickness of 30 mils with a double felt subliner shall be properly installed and maintained in the reserve pit. |
| Surface | The reserve pit shall be fenced upon completion of drilling operations. |
| Surface | Drainages adjacent to the proposed pad shall be diverted around the location. |

# WORKSHEET
# APPLICATION FOR PERMIT TO DRILL

**APD RECEIVED:** 11/23/2010 **API NO. ASSIGNED:** 43047513640000

**WELL NAME:** NBU 921-35J1BS

**OPERATOR:** KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995) **PHONE NUMBER:** 720 929-6156

**CONTACT:** Danielle Piernot

**PROPOSED LOCATION:** SWNE 35 090S 210E **Permit Tech Review:** ☑

**SURFACE:** 2053 FNL 1613 FEL **Engineering Review:** ☑

**BOTTOM:** 2419 FSL 1824 FEL **Geology Review:** ☑

**COUNTY:** UINTAH

**LATITUDE:** 39.99411 **LONGITUDE:** -109.51449

**UTM SURF EASTINGS:** 626820.00 **NORTHINGS:** 4427950.00

**FIELD NAME:** NATURAL BUTTES

**LEASE TYPE:** 3 - State

**LEASE NUMBER:** ML 22582 **PROPOSED PRODUCING FORMATION(S):** WASATCH-MESA VERDE

**SURFACE OWNER:** 3 - State **COALBED METHANE:** NO

**RECEIVED AND/OR REVIEWED:**

- ☑ **PLAT**
- ☑ **Bond:** STATE/FEE - 22013542
- ☐ **Potash**
- ☑ **Oil Shale 190-5**
- ☐ **Oil Shale 190-3**
- ☐ **Oil Shale 190-13**
- ☑ **Water Permit:** Permit #43-8496
- ☐ **RDCC Review:**
- ☐ **Fee Surface Agreement**
- ☑ **Intent to Commingle**

**Commingling Approved**

**LOCATION AND SITING:**

- ☐ **R649-2-3.**

**Unit:** NATURAL BUTTES

- ☐ **R649-3-2. General**
- ☐ **R649-3-3. Exception**
- ☑ **Drilling Unit**

**Board Cause No:** Cause 173-14

**Effective Date:** 12/2/1999

**Siting:** Suspends General Siting

- ☑ **R649-3-11. Directional Drill**

**Comments:** Presite Completed

**Stipulations:**

3 - Commingling - ddoucet
5 - Statement of Basis - bhill
15 - Directional - dmason
17 - Oil Shale 190-5(b) - dmason
25 - Surface Casing - hmacdonald

GARY R. HERBERT
*Governor*
GREGORY S. BELL
*Lieutenant Governor*

**State of Utah**
DEPARTMENT OF NATURAL RESOURCES
MICHAEL R. STYLER
*Executive Director*
**Division of Oil, Gas and Mining**
JOHN R. BAZA
*Division Director*

# Permit To Drill

**********

**Well Name:** NBU 921-35J1BS
**API Well Number:** 43047513640000
**Lease Number:** ML 22582
**Surface Owner:** STATE
**Approval Date:** 12/27/2010

**Issued to:**
KERR-MCGEE OIL & GAS ONSHORE, L.P., P.O. Box 173779, Denver, CO 80217

**Authority:**
Pursuant to Utah Code Ann. §40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 173-14. The expected producing formation or pool is the WASATCH-MESA VERDE Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

**Duration:**
This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

**Commingle:**
In accordance with Board Cause No. 173-14 commingling of the production from the Wasatch formation and the Mesaverde formation in this well is allowed.

**General:**
Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

**Conditions of Approval:**
In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

In accordance with the Order in Cause No. 190-5(b) dated October 28, 1982, the operator shall comply with the requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operators shall ensure that the surface and or production casing is properly cemented over the entire oil shale section as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the division.

Surface casing shall be cemented to the surface.

Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis (copy attached).

**Additional Approvals:**
The operator is required to obtain approval from the Division of Oil, Gas and mining before performing any of the following actions during the drilling of this well:

- Any changes to the approved drilling plan – contact Dustin Doucet
- Significant plug back of the well – contact Dustin Doucet
- Plug and abandonment of the well – contact Dustin Doucet

**Notification Requirements:**
The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

- Within 24 hours following the spudding of the well – contact Carol Daniels
  OR
  submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website at https://oilgas.ogm.utah.gov
- 24 hours prior to testing blowout prevention equipment - contact Dan Jarvis
- 24 hours prior to cementing or testing casing – contact Dan Jarvis
- Within 24 hours of making any emergency changes to the approved drilling program – contact Dustin Doucet
- 24 hours prior to commencing operations to plug and abandon the well – contact Dan Jarvis

**Contact Information:**
The following are Division of Oil, Gas and Mining contacts and their telephone numbers (please leave a voicemail message if the person is not available to take the call):

- Carol Daniels 801-538-5284 - office
- Dustin Doucet 801-538-5281 - office
  801-733-0983 - after office hours
- Dan Jarvis 801-538-5338 - office
  801-231-8956 - after office hours

**Reporting Requirements:**
All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) – due within 5 days of spudding the well
- Monthly Status Report (Form 9) – due by 5th day of the following calendar month
- Requests to Change Plans (Form 9) – due prior to implementation
- Written Notice of Emergency Changes (Form 9) – due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) – due prior to implementation
- Report of Water Encountered (Form 7) – due within 30 days after completion
- Well Completion Report (Form 8) – due within 30 days after completion or plugging

**Approved By:**

For John Rogers
Associate Director, Oil & Gas

SUBMIT AS EMAIL | Print Form

# BLM - Vernal Field Office - Notification Form

Operator KERR-McGEE OIL & GAS Rig Name/# BUCKET RIG
Submitted By ANDY LYTLE Phone Number 720.929.6100
Well Name/Number NBU 921-35J1BS
Qtr/Qtr SWNE Section 35 Township 9S Range 21E
Lease Serial Number ML 22582
API Number 4304751364

Spud Notice – Spud is the initial spudding of the well, not drilling out below a casing string.

Date/Time 06/16/2011 08:00 HRS AM ☐ PM ☐

Casing – Please report time casing run starts, not cementing times.

- ☑ Surface Casing
- ☐ Intermediate Casing
- ☐ Production Casing
- ☐ Liner
- ☐ Other

RECEIVED
JUN 15 2011
DIV. OF OIL, GAS & MINING

Date/Time 06/24/2011 00:00 HRS AM ☐ PM ☐

BOPE

- ☐ Initial BOPE test at surface casing point
- ☐ BOPE test at intermediate casing point
- ☐ 30 day BOPE test
- ☐ Other

Date/Time _____ _____ AM ☐ PM ☐

Remarks ESTIMATED DATE AND TIME. PLEASE CONTACT KENNY GATHINGS AT 435.828.0986 OR LOVEL YOUNG AT 435.781.7051

# STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

## SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

**5.LEASE DESIGNATION AND SERIAL NUMBER:** ML 22582

**6. IF INDIAN, ALLOTTEE OR TRIBE NAME:**

**7.UNIT or CA AGREEMENT NAME:** NATURAL BUTTES

**1. TYPE OF WELL** Gas Well

**8. WELL NAME and NUMBER:** NBU 921-35J1BS

**2. NAME OF OPERATOR:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**9. API NUMBER:** 43047513640000

**3. ADDRESS OF OPERATOR:** P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779 **PHONE NUMBER:** 720 929-6515 Ext

**9. FIELD and POOL or WILDCAT:** NATURAL BUTTES

**4. LOCATION OF WELL**
**FOOTAGES AT SURFACE:** 2053 FNL 1613 FEL
**QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:** Qtr/Qtr: SWNE Section: 35 Township: 09.0S Range: 21.0E Meridian: S

**COUNTY:** UINTAH

**STATE:** UTAH

**11.** CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

| TYPE OF SUBMISSION | TYPE OF ACTION | | |
|---|---|---|---|
| ☐ NOTICE OF INTENT Approximate date work will start: | ☐ ACIDIZE | ☐ ALTER CASING | ☐ CASING REPAIR |
| ☐ SUBSEQUENT REPORT Date of Work Completion: | ☐ CHANGE TO PREVIOUS PLANS | ☐ CHANGE TUBING | ☐ CHANGE WELL NAME |
| | ☐ CHANGE WELL STATUS | ☐ COMMINGLE PRODUCING FORMATIONS | ☐ CONVERT WELL TYPE |
| | ☐ DEEPEN | ☐ FRACTURE TREAT | ☐ NEW CONSTRUCTION |
| | ☐ OPERATOR CHANGE | ☐ PLUG AND ABANDON | ☐ PLUG BACK |
| ✓ SPUD REPORT Date of Spud: 6/16/2011 | ☐ PRODUCTION START OR RESUME | ☐ RECLAMATION OF WELL SITE | ☐ RECOMPLETE DIFFERENT FORMATION |
| | ☐ REPERFORATE CURRENT FORMATION | ☐ SIDETRACK TO REPAIR WELL | ☐ TEMPORARY ABANDON |
| | ☐ TUBING REPAIR | ☐ VENT OR FLARE | ☐ WATER DISPOSAL |
| ☐ DRILLING REPORT Report Date: | ☐ WATER SHUTOFF | ☐ SI TA STATUS EXTENSION | ☐ APD EXTENSION |
| | ☐ WILDCAT WELL DETERMINATION | ☐ OTHER | OTHER: |

**12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.**

MIRU PETE MARTIN BUCKET RIG. DRILLED 20" CONDUCTOR HOLE TO 40'. RAN 14" 36.7# SCHEDULE 10 PIPE. CMT W/28 SX READY MIX. SPUD WELL ON 06/16/2011 AT 1000 HRS.

**Accepted by the Utah Division of Oil, Gas and Mining**

**FOR RECORD ONLY**

| NAME (PLEASE PRINT) | PHONE NUMBER | TITLE |
|---|---|---|
| Sheila Wopsock | 435 781-7024 | Regulatory Analyst |
| **SIGNATURE** N/A | | **DATE** 6/20/2011 |

RECEIVED Jun. 20, 2011

# STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

## SUNDRY NOTICES AND REPORTS ON WELLS

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**5.LEASE DESIGNATION AND SERIAL NUMBER:** ML 22582

**6. IF INDIAN, ALLOTTEE OR TRIBE NAME:**

**7.UNIT or CA AGREEMENT NAME:** NATURAL BUTTES

**1. TYPE OF WELL** Gas Well

**8. WELL NAME and NUMBER:** NBU 921-35J1BS

**2. NAME OF OPERATOR:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**9. API NUMBER:** 43047513640000

**3. ADDRESS OF OPERATOR:** P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

**PHONE NUMBER:** 720 929-6515 Ext

**9. FIELD and POOL or WILDCAT:** NATURAL BUTTES

**4. LOCATION OF WELL**
**FOOTAGES AT SURFACE:** 2053 FNL 1613 FEL
**QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:** Qtr/Qtr: SWNE Section: 35 Township: 09.0S Range: 21.0E Meridian: S

**COUNTY:** UINTAH

**STATE:** UTAH

**11.** CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

| TYPE OF SUBMISSION | TYPE OF ACTION | | |
|---|---|---|---|
| ☐ NOTICE OF INTENT Approximate date work will start: | ☐ ACIDIZE | ☐ ALTER CASING | ☐ CASING REPAIR |
| ☐ SUBSEQUENT REPORT Date of Work Completion: | ☐ CHANGE TO PREVIOUS PLANS | ☐ CHANGE TUBING | ☐ CHANGE WELL NAME |
| | ☐ CHANGE WELL STATUS | ☐ COMMINGLE PRODUCING FORMATIONS | ☐ CONVERT WELL TYPE |
| | ☐ DEEPEN | ☐ FRACTURE TREAT | ☐ NEW CONSTRUCTION |
| | ☐ OPERATOR CHANGE | ☐ PLUG AND ABANDON | ☐ PLUG BACK |
| ☐ SPUD REPORT Date of Spud: | ☐ PRODUCTION START OR RESUME | ☐ RECLAMATION OF WELL SITE | ☐ RECOMPLETE DIFFERENT FORMATION |
| | ☐ REPERFORATE CURRENT FORMATION | ☐ SIDETRACK TO REPAIR WELL | ☐ TEMPORARY ABANDON |
| | ☐ TUBING REPAIR | ☐ VENT OR FLARE | ☐ WATER DISPOSAL |
| ✓ DRILLING REPORT Report Date: 6/25/2011 | ☐ WATER SHUTOFF | ☐ SI TA STATUS EXTENSION | ☐ APD EXTENSION |
| | ☐ WILDCAT WELL DETERMINATION | ☐ OTHER | OTHER: |

**12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.**

MIRU AIR RIG ON JUNE 25, 2011. DRILLED SURFACE HOLE TO 2440'. RAN SURFACE CASING AND CEMENTED. WELL IS WAITING ON ROTARY RIG. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH WELL COMPLETION REPORT.

**Accepted by the Utah Division of Oil, Gas and Mining**

**FOR RECORD ONLY**

| NAME (PLEASE PRINT) | PHONE NUMBER | TITLE |
|---|---|---|
| Andy Lytle | 720 929-6100 | Regulatory Analyst |
| **SIGNATURE** N/A | | **DATE** 6/27/2011 |

RECEIVED Jun. 27, 2011

**STATE OF UTAH**
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 6

# ENTITY ACTION FORM

Operator: KERR McGEE OIL & GAS ONSHORE LP
Operator Account Number: N 2995
Address: 1368 SOUTH 1200 EAST
city VERNAL
state UT zip 84078
Phone Number: (435) 781-7024

**Well 1**

| API Number | Well Name | | QQ | Sec | Twp | Rng | County |
|---|---|---|---|---|---|---|---|
| 4304751361 | NBU 921-35G1CS | | SWNE | 35 | 9S | 21E | UINTAH |
| **Action Code** | **Current Entity Number** | **New Entity Number** | **Spud Date** | | | **Entity Assignment Effective Date** | |
| B | 99999 | 2900 | 6/16/2011 | | | 6/22/11 | |

**Comments:** MIRU PETE MARTIN BUCKET RIG. WSMVD
SPUD WELL ON 06/16/2011 AT 1000 HRS. BHL= SWNE

**Well 2**

| API Number | Well Name | | QQ | Sec | Twp | Rng | County |
|---|---|---|---|---|---|---|---|
| 4304751364 | NBU 921-35J1BS | | SWNE | 35 | 9S | 21E | UINTAH |
| **Action Code** | **Current Entity Number** | **New Entity Number** | **Spud Date** | | | **Entity Assignment Effective Date** | |
| B | 99999 | 2900 | 6/16/2011 | | | 6/22/11 | |

**Comments:** MIRU PETE MARTIN BUCKET RIG. WSMVD
SPUD WELL ON 06/16/2011 AT 1000 HRS. BHL= NWSE

**Well 3**

| API Number | Well Name | | QQ | Sec | Twp | Rng | County |
|---|---|---|---|---|---|---|---|
| 4304751362 | NBU 921-35G4BS | | SWNE | 35 | 9S | 21E | UINTAH |
| **Action Code** | **Current Entity Number** | **New Entity Number** | **Spud Date** | | | **Entity Assignment Effective Date** | |
| B | 99999 | 2900 | 6/16/2011 | | | 6/22/11 | |

**Comments:** MIRU PETE MARTIN BUCKET RIG. WSMVD
SPUD WELL LOCATION ON 06/16/2011 AT 1500 HRS. BHL=SWNE

**ACTION CODES:**
- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (Explain in 'comments' section)

SHEILA WOPSOCK
Name (Please Print)
Signature
REGULATORY ANALYST
Title
6/20/2011
Date

(5/2000)

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JUN 2 0 2011
DIV. OF OIL, GAS & MINING

BLM - Vernal Field Office - Notification Form

Operator KERR MCGEE Rig Name/# H&P 311
Submitted By DALTON KING Phone Number 435- 790-1884
Well Name/Number NBU 921-35J1BS
Qtr/Qtr SW/NE Section 35 Township 9S Range 21E
Lease Serial Number ML-22582
API Number 43-047-51364

Spud Notice – Spud is the initial spudding of the well, not drilling out below a casing string.

Date/Time _____ _____ AM ☐ PM ☐

Casing – Please report time casing run starts, not cementing times.

☐ Surface Casing
☐ Intermediate Casing
☐ Production Casing
☐ Liner
☐ Other

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JUL 12 2011
DIV. OF OIL, GAS & MINING

Date/Time _ __ AM ☐ PM ☐

BOPE

☒ Initial BOPE test at surface casing point
☐ BOPE test at intermediate casing point
☐ 30 day BOPE test
☐ Other

Date/Time 7/10/2011 15:00 AM ☐ PM ☒

Remarks TIME IS ESTIMATED

**Carol Daniels - NBU 921-35J1BS PROD CASING** T09S R21E S-35 43-047-51364

**From:** "Anadarko - H&P 311"
**To:**
**Date:** 7/15/2011 6:09 AM
**Subject:** NBU 921-35J1BS PROD CASING
**CC:** "'Carol Daniels'"

ANADARKO
NBU 921-35J1BS
PROD CASING RUN

THANK YOU
DALTON KING

# STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

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**PHONE NUMBER:** 720 929-6515 Ext

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**COUNTY:** UINTAH

**STATE:** UTAH

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| | ☐ TUBING REPAIR | ☐ VENT OR FLARE | ☐ WATER DISPOSAL |
| ✓ DRILLING REPORT Report Date: 7/18/2011 | ☐ WATER SHUTOFF | ☐ SI TA STATUS EXTENSION | ☐ APD EXTENSION |
| | ☐ WILDCAT WELL DETERMINATION | ☐ OTHER | OTHER: |

**12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.**

MIRU ROTARY RIG. FINISHED DRILLING FROM 2440' TO 9850' ON JULY 16, 2011. RAN 4-1/2" 11.6# I-80 PRODUCTION CASING TO 9691'. RAN 4 ½" 11.6# P110 CSG FROM 9691' TO 9828'. CEMENTED PRODUCTION CASING. RELEASED H&P RIG 311 ON JULY 18, 2011 @ 01:00 HRS. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH THE WELL COMPLETION REPORT. WELL IS WAITING ON FINAL COMPLETION ACTIVITIES.

**Accepted by the Utah Division of Oil, Gas and Mining**

**FOR RECORD ONLY**

| NAME (PLEASE PRINT) | PHONE NUMBER | TITLE |
|---|---|---|
| Andy Lytle | 720 929-6100 | Regulatory Analyst |
| **SIGNATURE** N/A | | **DATE** 7/18/2011 |

RECEIVED Jul. 18, 2011

# STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

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**QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:** Qtr/Qtr: SWNE Section: 35 Township: 09.0S Range: 21.0E Meridian: S

**COUNTY:** UINTAH

**STATE:** UTAH

**11.** CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

| TYPE OF SUBMISSION | TYPE OF ACTION | | |
|---|---|---|---|
| ✓ NOTICE OF INTENT<br>Approximate date work will start: 10/11/2011 | ☐ ACIDIZE | ☐ ALTER CASING | ☐ CASING REPAIR |
| ☐ SUBSEQUENT REPORT<br>Date of Work Completion: | ☐ CHANGE TO PREVIOUS PLANS | ☐ CHANGE TUBING | ☐ CHANGE WELL NAME |
| ☐ SPUD REPORT<br>Date of Spud: | ☐ CHANGE WELL STATUS | ☐ COMMINGLE PRODUCING FORMATIONS | ☐ CONVERT WELL TYPE |
| ☐ DRILLING REPORT<br>Report Date: | ☐ DEEPEN | ☐ FRACTURE TREAT | ☐ NEW CONSTRUCTION |
| | ☐ OPERATOR CHANGE | ☐ PLUG AND ABANDON | ☐ PLUG BACK |
| | ☐ PRODUCTION START OR RESUME | ☐ RECLAMATION OF WELL SITE | ☐ RECOMPLETE DIFFERENT FORMATION |
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| | ☐ TUBING REPAIR | ☐ VENT OR FLARE | ☐ WATER DISPOSAL |
| | ☐ WATER SHUTOFF | ☐ SI TA STATUS EXTENSION | ☐ APD EXTENSION |
| | ☐ WILDCAT WELL DETERMINATION | ✓ OTHER | OTHER: CEMENT SQUEEZE |

**12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.**

The Operator requests approval to perform the attached cement squeeze operation on the subject well. This well has been identified as requiring remediation and is currently being monitored by Kerr-McGee's bradenhead best management practices. Thank you.

**Approved by the Utah Division of Oil, Gas and Mining**

**Date:** 10/12/2011

**By:** Dark K Quist

| NAME (PLEASE PRINT) | PHONE NUMBER | TITLE |
|---|---|---|
| Andy Lytle | 720 929-6100 | Regulatory Analyst |
| **SIGNATURE** N/A | | **DATE** 10/10/2011 |

**RECEIVED** Oct. 10, 2011

# Greater Natural Buttes Unit

Anadarko Petroleum Corporation

## NBU 921-35J1BS

### CEMENT SQUEEZE PROCEDURE

**DATE:9/8/2011**
**AFE#:2049280**
**API#:4304751364**
**USER ID:OOT937** (Frac Invoices Only)

**COMPLETIONS ENGINEER:** **Zachary Garrity, Denver, CO**
**(720) 929-6180 (Office)**
**(406) 781-6427 (Cell)**

**SIGNATURE:**

**ENGINEERING MANAGER: JEFF DUFRESNE**

**SIGNATURE:**

R E M E M B E R  S A F E T Y  F I R S T !

**RECEIVED** Oct. 10, 2011

**Name:** **NBU 921-35J1BS**
**Location:** **NW NE NW SE Sec 35 T9S R21E**
**LAT:** 39.994123 **LONG:** -109.515231 **COORDINATE:** NAD83 *(Surface Location)*
**Uintah County, UT**
**Date:** **9/8/2011**

**ELEVATIONS:** 5119' GL 5144' KB *Frac Registry TVD: 9731'*

**TOTAL DEPTH:** 9850' **PBTD:** 9780'
**SURFACE CASING:** 8 5/8", 28# J-55 LT&C @ 2439'
**PRODUCTION CASING:** 4 1/2", 11.6#, I-80 BT&C @ 9691'
4 1/2", 11.6#, P-110 BT&C @ 9691 - 9828'
Marker Joint **4846-4866' and 7582-7602**'

**TUBULAR PROPERTIES:**

| | BURST (psi) | COLLAPSE (psi) | DRIFT DIA. (in.) | CAPACITIES (bbl/ft) | (gal/ft) |
|---|---|---|---|---|---|
| 2 3/8" 4.7# J-55 tbg | 7,700 | 8,100 | 1.901" | 0.00387 | 0.1624 |
| 4 ½" 11.6# I-80 (See above) | 7780 | 6350 | 3.875" | 0.0155 | 0.6528 |
| 4 ½" 11.6# P-110 | 10691 | 7580 | 3.875" | 0.0155 | 0.6528 |
| 2 3/8" by 4 ½" Annulus | | | | 0.0101 | 0.4227 |

**TOPS:** **BOTTOMS:**

1542' Green River Top
1929' Bird's Nest Top
2386' Mahogany Top
4885' Wasatch Top 7499' Wasatch Bottom
7499' Mesaverde Top 9850' Mesaverde Bottom (TD)

**T.O.C. @** 1684' Schlumberger CBL - 8/30/2011

**PERFORATIONS:**
See Attached

**PROCEDURE:**

1. Monitor current gas flow and/or pressure building up on the surface casing to establish a buildup rate.

2. Call for tubing. NU and Test BOPs.

3. RIH and perf the following 3-3/8" gun, 23 gm, 0.36" hole:

| From | To | spf | # of shots |
|---|---|---|---|
| 2677 | 2678 | 6 | 6 |
| 2724 | 2725 | 6 | 6 |



RECEIVED Oct. 10, 2011

4. RIH w/ 4-1/2" packer at set @ **2700**'. Establish injection rate.

5. Monitor annulus between tubing and 4-1/2" casing for communication. Based on communication results; perform desired cement squeeze.

6. RIH set CICR at **2700'**.

7. R/U cement company and pump recommended cement job into perforations from **2677' – 2678'** and **2724' – 2725'**, based off injection rate and pressure. PUH w/ stinger and cap with CICR with cement. Reverse circulate clean. WOC for a minimum 12 hours prior to drill out.

8. POOH. TIH with 3 7/8" bit, pump off sub, SN and tubing. D-O CICR and cement to ~ **2730'**. Pressure test casing and perforations to 1000 psi for 10 minutes. Also verify that there is no gas flow or pressure building up on the surface casing. Contact engineer if there is a test failure.

9. Drill plugs and clean out to PBTD. Shear off bit and land tubing at ±**9084**' unless indicated otherwise by the well's behavior.

10. Clean out well with foam and/or swabbing unit until steady flow has been established from completion.

11. **Leave surface casing valve open**. Monitor and report any flow from surface casing. RDMO

**For design questions, please call**
**Zachary Garrity, Denver, CO**
**(720) 929-6180 (Office)**
**(406) 781-6427 (Cell)**

**For field implementation questions, please call**
**Jeff Samuels, Vernal, UT**
**(435) 781-7046 (Office)**

NOTES:



RECEIVED Oct. 10, 2011

Acid Pickling and H2S Procedures (If Required)

**PROCEDURE FOR PUMPING ACID DOWN TBG

WHEN FINDING SCALE IN TUBING THAT IS ACID SOLUBLE, ENSURE THAT PLUNGER EQUIPMENT IS REMOVED AND ABLE TO PUMP DOWN TBG. INSTALL A 'T' IN PUMP LINE W/2" VALVE THAT NALCO CAN TIE INTO. HAVE 60 BBLS 2% KCL MIXED W/ 10-15 GAL H2S SCAVENGER IN RIG FLAT TANK. (WE USED THE RIG FLAT TANK FOR MIXING CHEMICAL SO WE DIDN'T HAVE THE CHEMICAL IN ALL FLUIDS ON LOCATION, ONLY WHAT WE NEEDED TO PUMP DOWN HOLE)

1. PUMP 5-10 BBLS 2% KCL DOWN TBG (NALCO CANNOT PUMP AGAINST PRESSURE)
2. NALCO WILL PUMP 3 DRUMS HCL (31%) INTO PUMP LINE.
3. FLUSH BEHIND ACID WITH 10-15 BBL 2% KCL
4. PUMP 2—30 BBL 2% W/ H2S SCAVENGER DOWN TBG.
5. PUMP REMAINDER OF 2% W/ H2S SCAVENGER DOWN CASING AND SHUT WELL IN FOR MINIMUM OF 2 HRS.
6. OVER DISPLACE DOWN TBG AND CSG TO FLUSH ACID AND SCAVENGER INTO FORMATION
7. MONITOR TUBING FOR FLOW AND CASING FOR H2S NOW AS POOH W/ TUBING.

** PROCEDURE FOR PUMPING H2S SCAVENGER WITHOUT ACID

PRIOR TO RIG MOVING ON OR AS RIG PULLS ONTO LOCATION. TEST CASING, TUBING AND SEPARATOR FOR H2S. IF FOUND MAKE SURE THAT PLUNGER SYSTEM IS REMOVED (IT IS POSSIBLE TO PUMP AROUND PLUNGERS BUT SOME WILL HAVE A STANDING VALVE IN SEATING NIPPLE).

1. MIX 10-15 GAL H2S SCAVENGER WITH 60-100 BBL 2% KCL IN RIG FLAT TANK.
2. PUMP 25 BBLS MIXTURE DOWN TUBING AND REST DOWN CASING. SHUT WELL IN FOR 2 HOURS.
3. IF WELL HAS PRESSURE AFTER 2 HOURS – RETEST CASING AND TUBING FOR H2S.
4. FLUSH TUBING AND CASING PUSHING H2S SCAVENGER INTO FORMATION.
5. MONITOR TUBING FOR FLOW AND CASING FOR H2S NOW AS POOH W/ TUBING.

** As per APC standard operating procedure, APC foreman will verify ALL volumes pumped and record on APC Volume Report Form



RECEIVED Oct. 10, 2011

Key Contact information

Completion Engineer

Zachary Garrity: 406-781-6427, 720-929-6180

Production Engineer

Jordan Portillo: 435/781-9785, 435/828-6221

Brad Laney: 435-781-7031, 435-828-5469

Completion Supervisor Foreman

Jeff Samuels: 435-828-6515, 435-781-7046

Completion Manager

Jeff Dufresne: 720-929-6281, 303-241-8428

Vernal Main Office

435-789-3342

Emergency Contact Information—Call 911

Vernal Regional Hospital Emergency: 435-789-3342

Police: (435) 789-5835

Fire: 435-789-4222



RECEIVED Oct. 10, 2011

**Name** NBU 921-35J1BS
**Perforation and CBP Summary**

| Stage | Zones | Perforations | | SPF | Holes | | Fracture Coverage | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Top, ft | Bottom, ft | | | | | | |
| 1 | MESAVERDE | 9494 | 9496 | 3 | 6 | | 9488.5 | to | 9500 |
| | MESAVERDE | 9554 | 9556 | 3 | 6 | | 9549.5 | to | 9565.5 |
| | MESAVERDE | 9618 | 9620 | 3 | 6 | | 9601.5 | to | 9623.5 |
| | MESAVERDE | 9640 | 9642 | 3 | 6 | | 9637.5 | to | 9644.5 |
| | # of Perfs/stage | | | | 24 | | CBP DEPTH | 9,380 | |
| 2 | MESAVERDE | 9114 | 9116 | 3 | 6 | | 9110.5 | to | 9137.5 |
| | MESAVERDE | 9162 | 9164 | 3 | 6 | | 9155 | to | 9167.5 |
| | MESAVERDE | 9216 | 9218 | 3 | 6 | | 9205.5 | to | 9221.5 |
| | MESAVERDE | 9328 | 9330 | 3 | 6 | | 9327.5 | to | 9333 |
| | # of Perfs/stage | | | | 24 | | CBP DEPTH | 9,096 | |
| 3 | MESAVERDE | 8807 | 8808 | 4 | 4 | | 8788 | to | 8828.5 |
| | MESAVERDE | 8938 | 8940 | 3 | 6 | | 8929 | to | 8957.5 |
| | MESAVERDE | 9032 | 9034 | 3 | 6 | | 9024.5 | to | 9028.5 |
| | MESAVERDE | 9064 | 9066 | 4 | 8 | | 9030 | to | 9034.5 |
| | # of Perfs/stage | | | | 24 | | CBP DEPTH | 8,756 | |
| 4 | MESAVERDE | 8552 | 8554 | 3 | 6 | | 8543.5 | to | 8561.5 |
| | MESAVERDE | 8596 | 8598 | 3 | 6 | | 8578 | to | 8607.5 |
| | MESAVERDE | 8680 | 8682 | 3 | 6 | | 8665.5 | to | 8690 |
| | MESAVERDE | 8724 | 8726 | 3 | 6 | | 8710 | to | 8741.5 |
| | # of Perfs/stage | | | | 24 | | CBP DEPTH | 8,511 | |
| 5 | MESAVERDE | 8296 | 8300 | 3 | 12 | | 8281.5 | to | 8307.5 |
| | MESAVERDE | 8477 | 8481 | 3 | 12 | | 8470 | to | 8485 |
| | # of Perfs/stage | | | | 24 | | CBP DEPTH | 8,182 | |
| 6 | MESAVERDE | 8030 | 8032 | 3 | 6 | | 8026 | to | 8037.5 |
| | MESAVERDE | 8070 | 8072 | 3 | 6 | | 8066.5 | to | 8076 |
| | MESAVERDE | 8096 | 8098 | 3 | 6 | | 8090 | to | 8112 |
| | MESAVERDE | 8130 | 8132 | 3 | 6 | | 8119 | to | 8149 |
| | # of Perfs/stage | | | | 24 | | CBP DEPTH | 8,001 | |
| 7 | MESAVERDE | 7764 | 7766 | 3 | 6 | | 7760 | to | 7769.5 |
| | MESAVERDE | 7848 | 7850 | 3 | 6 | | 7843.5 | to | 7864 |
| | MESAVERDE | 7936 | 7938 | 3 | 6 | | 7923 | to | 7947 |
| | MESAVERDE | 7969 | 7971 | 3 | 6 | | 7963 | to | 7974.5 |
| | # of Perfs/stage | | | | 24 | | CBP DEPTH | 7,572 | |
| 8 | MESAVERDE | 7514 | 7522 | 3 | 24 | | 7502.5 | to | 7527.5 |
| | # of Perfs/stage | | | | 24 | | CBP DEPTH | 7,464 | |
| | Totals | | | | 192 | | | | |



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| NBU 921-35J1BS DIRECTIONAL SURVEY | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MD | TVD | EW | NS | INC | AZI | | MD | TVD | EW | NS | INC | AZI |
| 0 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | | 4656 | 4538 | -240.9 | -767.3 | 1.3 | 87.1 |
| 167 | 167 | -0.1 | -0.6 | 0.4 | 192.6 | | 4750 | 4632 | -238.9 | -768.0 | 1.4 | 126.9 |
| 254 | 254 | -0.1 | -1.4 | 0.6 | 166.8 | | 4845 | 4727 | -237.0 | -769.3 | 1.3 | 122.8 |
| 338 | 338 | -0.3 | -3.0 | 1.6 | 196.5 | | 4939 | 4821 | -235.2 | -770.9 | 1.8 | 139.4 |
| 427 | 427 | -1.3 | -6.5 | 3.1 | 195.0 | | 5033 | 4915 | -233.1 | -773.2 | 1.9 | 135.0 |
| 517 | 517 | -3.6 | -12.0 | 4.7 | 207.0 | | 5128 | 5010 | -232.3 | -774.9 | 0.9 | 209.8 |
| 607 | 606 | -7.5 | -19.5 | 6.1 | 207.6 | | 5222 | 5104 | -232.7 | -776.5 | 1.1 | 177.2 |
| 697 | 696 | -11.9 | -29.1 | 7.4 | 202.8 | | 5316 | 5198 | -232.5 | -778.3 | 1.1 | 172.9 |
| 787 | 785 | -16.8 | -41.1 | 9.1 | 201.3 | | 5411 | 5293 | -232.5 | -780.1 | 1.1 | 185.6 |
| 877 | 873 | -21.5 | -55.6 | 10.4 | 195.0 | | 5505 | 5387 | -232.6 | -782.2 | 1.4 | 182.5 |
| 967 | 962 | -26.0 | -72.6 | 12.1 | 194.7 | | 5599 | 5481 | -232.2 | -783.4 | 0.5 | 104.0 |
| 1057 | 1049 | -31.2 | -91.7 | 13.4 | 196.0 | | 5694 | 5575 | -231.5 | -782.7 | 1.1 | 21.1 |
| 1147 | 1137 | -37.4 | -113.1 | 15.2 | 196.1 | | 5788 | 5669 | -231.0 | -781.4 | 0.6 | 19.9 |
| 1237 | 1223 | -44.1 | -136.9 | 16.7 | 195.3 | | 5882 | 5763 | -230.8 | -780.5 | 0.4 | 353.4 |
| 1327 | 1309 | -51.1 | -162.6 | 17.7 | 195.3 | | 5977 | 5858 | -230.9 | -779.8 | 0.5 | 358.5 |
| 1417 | 1395 | -58.8 | -189.9 | 19.1 | 196.2 | | 6071 | 5952 | -231.1 | -779.2 | 0.4 | 327.3 |
| 1507 | 1479 | -67.7 | -219.0 | 20.5 | 197.5 | | 6165 | 6046 | -231.3 | -778.6 | 0.4 | 349.7 |
| 1597 | 1564 | -76.8 | -249.4 | 20.7 | 195.9 | | 6260 | 6141 | -230.6 | -779.0 | 1.3 | 133.9 |
| 1687 | 1647 | -85.6 | -280.7 | 21.7 | 195.7 | | 6354 | 6235 | -229.2 | -780.3 | 1.0 | 138.6 |
| 1777 | 1731 | -94.2 | -312.8 | 21.6 | 194.2 | | 6449 | 6330 | -228.4 | -781.9 | 1.2 | 163.5 |
| 1867 | 1815 | -102.5 | -343.8 | 20.2 | 195.7 | | 6543 | 6424 | -227.8 | -783.7 | 1.1 | 155.7 |
| 1957 | 1900 | -111.5 | -373.3 | 19.9 | 198.3 | | 6638 | 6519 | -227.1 | -785.5 | 1.3 | 163.3 |
| 2047 | 1984 | -121.4 | -403.0 | 20.8 | 198.7 | | 6732 | 6613 | -226.7 | -786.9 | 0.4 | 172.6 |
| 2137 | 2068 | -131.2 | -433.7 | 21.1 | 196.6 | | 6826 | 6707 | -226.2 | -787.9 | 1.0 | 140.3 |
| 2227 | 2153 | -140.5 | -463.3 | 19.3 | 198.5 | | 6920 | 6801 | -225.6 | -789.3 | 1.1 | 173.7 |
| 2317 | 2238 | -150.3 | -491.5 | 19.4 | 199.8 | | 7015 | 6896 | -225.5 | -790.4 | 0.2 | 192.7 |
| 2407 | 2322 | -160.5 | -519.5 | 19.3 | 200.3 | | 7109 | 6990 | -225.4 | -790.7 | 0.4 | 137.7 |
| 2486 | 2397 | -169.2 | -543.6 | 18.6 | 199.4 | | 7203 | 7084 | -224.8 | -791.2 | 0.5 | 126.1 |
| 2581 | 2487 | -178.7 | -572.6 | 18.9 | 196.5 | | 7297 | 7178 | -224.3 | -791.8 | 0.5 | 151.5 |
| 2675 | 2576 | -187.7 | -600.5 | 17.4 | 199.6 | | 7392 | 7273 | -223.7 | -792.7 | 0.7 | 144.1 |
| 2769 | 2666 | -196.9 | -627.3 | 17.7 | 198.3 | | 7486 | 7367 | -223.4 | -793.7 | 0.6 | 180.7 |
| 2864 | 2757 | -206.9 | -654.5 | 17.9 | 202.0 | | 7581 | 7462 | -223.1 | -794.4 | 0.4 | 130.2 |
| 2958 | 2847 | -215.8 | -678.2 | 13.5 | 198.9 | | 7675 | 7556 | -222.9 | -795.1 | 0.5 | 186.2 |
| 3053 | 2940 | -222.3 | -698.9 | 12.8 | 195.8 | | 7769 | 7650 | -223.0 | -795.9 | 0.4 | 186.1 |
| 3147 | 3032 | -227.2 | -717.0 | 10.4 | 194.2 | | 7864 | 7745 | -223.5 | -796.9 | 1.0 | 218.4 |
| 3242 | 3125 | -231.5 | -732.2 | 8.7 | 198.0 | | 7958 | 7839 | -224.5 | -798.1 | 1.0 | 220.9 |
| 3336 | 3218 | -235.8 | -743.7 | 6.3 | 204.1 | | 8052 | 7933 | -225.2 | -799.3 | 0.8 | 191.7 |
| 3430 | 3312 | -238.5 | -752.0 | 4.5 | 189.1 | | 8147 | 8028 | -224.9 | -800.5 | 0.9 | 142.8 |
| 3524 | 3406 | -239.3 | -757.6 | 2.4 | 185.6 | | 8241 | 8122 | -223.9 | -801.9 | 1.1 | 149.3 |
| 3619 | 3501 | -239.6 | -760.4 | 1.0 | 187.1 | | 8335 | 8216 | -223.0 | -803.3 | 1.0 | 139.8 |
| 3713 | 3595 | -240.5 | -760.8 | 1.1 | 290.3 | | 8430 | 8311 | -221.9 | -804.7 | 1.1 | 145.5 |
| 3807 | 3689 | -242.1 | -760.6 | 1.0 | 267.6 | | 8524 | 8405 | -220.5 | -806.4 | 1.6 | 135.5 |
| 3901 | 3783 | -243.4 | -761.0 | 0.8 | 230.0 | | 8618 | 8499 | -219.8 | -807.7 | 0.5 | 221.6 |
| 3996 | 3878 | -244.4 | -762.5 | 1.4 | 208.5 | | 8712 | 8593 | -220.2 | -808.6 | 0.8 | 183.2 |
| 4090 | 3972 | -244.6 | -763.6 | 0.5 | 100.5 | | 8807 | 8688 | -221.7 | -809.4 | 1.9 | 266.3 |
| 4184 | 4066 | -243.6 | -764.0 | 0.9 | 117.4 | | 8901 | 8782 | -224.2 | -809.9 | 1.3 | 243.4 |
| 4279 | 4161 | -242.5 | -764.7 | 0.8 | 132.0 | | 8995 | 8876 | -226.0 | -811.0 | 1.2 | 238.4 |
| 4373 | 4255 | -242.1 | -765.2 | 0.1 | 229.0 | | 9820 | 9701 | -215.6 | -820.9 | 2.6 | 106.3 |
| 4467 | 4349 | -242.2 | -765.7 | 0.5 | 183.4 | | 9850 | 9731 | -214.3 | -821.2 | 2.6 | 106.3 |
| 4562 | 4444 | -242.1 | -766.7 | 0.8 | 168.8 | | | | | | | |

RECEIVED Oct. 10, 2011

# STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

## SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

**5.LEASE DESIGNATION AND SERIAL NUMBER:** ML 22582

**6. IF INDIAN, ALLOTTEE OR TRIBE NAME:**

**7.UNIT or CA AGREEMENT NAME:** NATURAL BUTTES

**1. TYPE OF WELL** Gas Well

**8. WELL NAME and NUMBER:** NBU 921-35J1BS

**2. NAME OF OPERATOR:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**9. API NUMBER:** 43047513640000

**3. ADDRESS OF OPERATOR:** P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

**PHONE NUMBER:** 720 929-6515 Ext

**9. FIELD and POOL or WILDCAT:** NATURAL BUTTES

**4. LOCATION OF WELL**
**FOOTAGES AT SURFACE:** 2053 FNL 1613 FEL
**QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:** Qtr/Qtr: SWNE Section: 35 Township: 09.0S Range: 21.0E Meridian: S

**COUNTY:** UINTAH

**STATE:** UTAH

**11.** CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

| TYPE OF SUBMISSION | TYPE OF ACTION | | |
|---|---|---|---|
| ☐ NOTICE OF INTENT Approximate date work will start: | ☐ ACIDIZE | ☐ ALTER CASING | ☐ CASING REPAIR |
| ☐ SUBSEQUENT REPORT Date of Work Completion: | ☐ CHANGE TO PREVIOUS PLANS | ☐ CHANGE TUBING | ☐ CHANGE WELL NAME |
| | ☐ CHANGE WELL STATUS | ☐ COMMINGLE PRODUCING FORMATIONS | ☐ CONVERT WELL TYPE |
| | ☐ DEEPEN | ☐ FRACTURE TREAT | ☐ NEW CONSTRUCTION |
| | ☐ OPERATOR CHANGE | ☐ PLUG AND ABANDON | ☐ PLUG BACK |
| ☐ SPUD REPORT Date of Spud: | ✓ PRODUCTION START OR RESUME | ☐ RECLAMATION OF WELL SITE | ☐ RECOMPLETE DIFFERENT FORMATION |
| | ☐ REPERFORATE CURRENT FORMATION | ☐ SIDETRACK TO REPAIR WELL | ☐ TEMPORARY ABANDON |
| | ☐ TUBING REPAIR | ☐ VENT OR FLARE | ☐ WATER DISPOSAL |
| ✓ DRILLING REPORT Report Date: 10/28/2011 | ☐ WATER SHUTOFF | ☐ SI TA STATUS EXTENSION | ☐ APD EXTENSION |
| | ☐ WILDCAT WELL DETERMINATION | ☐ OTHER | OTHER: |

**12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.**

THE SUBJECT WELL WAS PLACED ON PRODUCTION ON 10/28/2011 AT 1500 HRS. THE CHRONOLOGICAL WELL HISTORY WILL BE SUBMITTED WITH THE WELL COMPLETION REPORT.

**Accepted by the Utah Division of Oil, Gas and Mining**

**FOR RECORD ONLY**

| NAME (PLEASE PRINT) | PHONE NUMBER | TITLE |
|---|---|---|
| Sheila Wopsock | 435 781-7024 | Regulatory Analyst |
| **SIGNATURE** N/A | | **DATE** 11/1/2011 |

RECEIVED Nov. 01, 2011

**STATE OF UTAH**
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

AMENDED REPORT ☐ (highlight changes) FORM 8

# WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5. LEASE DESIGNATION AND SERIAL NUMBER: ML 22582
6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
7. UNIT or CA AGREEMENT NAME: UTU63047A
8. WELL NAME and NUMBER: NBU 921-35J1BS
9. API NUMBER: 4304751364
10. FIELD AND POOL, OR WILDCAT: NATURAL BUTTES

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☑ DRY ☐ OTHER
b. TYPE OF WORK: NEW WELL ☑ HORIZ. LATS. ☐ DEEP-EN ☐ RE-ENTRY ☐ DIFF. RESVR. ☐ OTHER
2. NAME OF OPERATOR: KERR MCGEE OIL & GAS ONSHORE, L.P.
3. ADDRESS OF OPERATOR: P.O.BOX 173779 CITY DENVER STATE CO ZIP 80217 PHONE NUMBER: (720) 929-6100
4. LOCATION OF WELL (FOOTAGES)
AT SURFACE: SWNE 2053 FNL 1613 FEL S35,T9S,R21E
AT TOP PRODUCING INTERVAL REPORTED BELOW: NWSE 2407 FSL 1836 FEL S35,T9S,R21E
AT TOTAL DEPTH: NWSE ~~2380~~ 2411 FSL 1827 FEL S35,T9S,R21E BHL rvcd by ltsm
11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NESE 35 9S 21E S
12. COUNTY: UINTAH 13. STATE: UTAH

14. DATE SPUDDED: 6/16/2011
15. DATE T.D. REACHED: 7/16/2011
16. DATE COMPLETED: 10/28/2011 ABANDONED ☐ READY TO PRODUCE ☑
17. ELEVATIONS (DF, RKB, RT, GL): 5119 GL
18. TOTAL DEPTH: MD 9,850 TVD 9,731
19. PLUG BACK T.D.: MD 9,782 TVD 9,663
20. IF MULTIPLE COMPLETIONS, HOW MANY? *
21. DEPTH BRIDGE PLUG SET: MD TVD
22. TYPE ELECTRIC AND OTHER MECHANICAL LOGS RUN (Submit copy of each)
BHV-SD/DSN/ACTR-IS/GR/CCL-SCB/GR/CCL
23.
WAS WELL CORED? NO ☑ YES ☐ (Submit analysis)
WAS DST RUN? NO ☑ YES ☐ (Submit report)
DIRECTIONAL SURVEY? NO ☐ YES ☑ (Submit copy)

**24. CASING AND LINER RECORD (Report all strings set in well)**

| HOLE SIZE | SIZE/GRADE | WEIGHT (#/ft.) | TOP (MD) | BOTTOM (MD) | STAGE CEMENTER DEPTH | CEMENT TYPE & NO. OF SACKS | SLURRY VOLUME (BBL) | CEMENT TOP ** | AMOUNT PULLED |
|---|---|---|---|---|---|---|---|---|---|
| 20" | 14" STL | 36.7# | 0 | 40 | | 28 | | | |
| 11" | 8 5/8" IJ-55 | 28# | 0 | 2,439 | | 830 | | 0 | |
| 7 7/8" | 4 1/2" I-80 | 11.6# | 0 | 9,828 | | 1,580 | | 1684 | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

**25. TUBING RECORD**

| SIZE | DEPTH SET (MD) | PACKER SET (MD) | SIZE | DEPTH SET (MD) | PACKER SET (MD) | SIZE | DEPTH SET (MD) | PACKER SET (MD) |
|---|---|---|---|---|---|---|---|---|
| 2 3/8" | 9,099 | | | | | | | |

**26. PRODUCING INTERVALS**

| FORMATION NAME | TOP (MD) | BOTTOM (MD) | TOP (TVD) | BOTTOM (TVD) |
|---|---|---|---|---|
| (A) MESAVERDE | 7,514 | 9,642 | | |
| (B) WSMVD | | | | |
| (C) | | | | |
| (D) | | | | |

**27. PERFORATION RECORD**

| INTERVAL (Top/Bot - MD) | SIZE | NO. HOLES | PERFORATION STATUS |
|---|---|---|---|
| 7,514 9,642 | 0.36 | 192 | Open ☑ Squeezed ☐ |
| | | | Open ☐ Squeezed ☐ |
| | | | Open ☐ Squeezed ☐ |
| | | | Open ☐ Squeezed ☐ |

**28. ACID, FRACTURE, TREATMENT, CEMENT SQUEEZE, ETC.**

| DEPTH INTERVAL | AMOUNT AND TYPE OF MATERIAL |
|---|---|
| 7514 - 9642 | PUMP 6,761 BBLS SLICK H2O & 128,540 LBS 30/50 OTTAWA SAND |
| | 8 STAGES |
| | |

**29. ENCLOSED ATTACHMENTS:**
☐ ELECTRICAL/MECHANICAL LOGS ☐ GEOLOGIC REPORT ☐ DST REPORT ☑ DIRECTIONAL SURVEY
☐ SUNDRY NOTICE FOR PLUGGING AND CEMENT VERIFICATION ☐ CORE ANALYSIS ☐ OTHER:

**30. WELL STATUS:** PROD

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(5/2000) (CONTINUED ON BACK)

**31. INITIAL PRODUCTION** — **INTERVAL A (As shown in item #26)**

| DATE FIRST PRODUCED: | TEST DATE: | HOURS TESTED: | TEST PRODUCTION RATES: → | OIL – BBL: | GAS – MCF: | WATER – BBL: | PROD. METHOD: |
|---|---|---|---|---|---|---|---|
| 10/28/2011 | 11/1/2011 | 24 | | 0 | 1,811 | 480 | FLOWING |

| CHOKE SIZE: | TBG. PRESS. | CSG. PRESS. | API GRAVITY | BTU – GAS | GAS/OIL RATIO | 24 HR PRODUCTION RATES: → | OIL – BBL: | GAS – MCF: | WATER – BBL: | INTERVAL STATUS: |
|---|---|---|---|---|---|---|---|---|---|---|
| 20/64 | 1,514 | 2,218 | | | | | 0 | 1,811 | 480 | PROD |

**INTERVAL B (As shown in item #26)**

| DATE FIRST PRODUCED: | TEST DATE: | HOURS TESTED: | TEST PRODUCTION RATES: → | OIL – BBL: | GAS – MCF: | WATER – BBL: | PROD. METHOD: |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

| CHOKE SIZE: | TBG. PRESS. | CSG. PRESS. | API GRAVITY | BTU – GAS | GAS/OIL RATIO | 24 HR PRODUCTION RATES: → | OIL – BBL: | GAS – MCF: | WATER – BBL: | INTERVAL STATUS: |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | |

**INTERVAL C (As shown in item #26)**

| DATE FIRST PRODUCED: | TEST DATE: | HOURS TESTED: | TEST PRODUCTION RATES: → | OIL – BBL: | GAS – MCF: | WATER – BBL: | PROD. METHOD: |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

| CHOKE SIZE: | TBG. PRESS. | CSG. PRESS. | API GRAVITY | BTU – GAS | GAS/OIL RATIO | 24 HR PRODUCTION RATES: → | OIL – BBL: | GAS – MCF: | WATER – BBL: | INTERVAL STATUS: |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | |

**INTERVAL D (As shown in item #26)**

| DATE FIRST PRODUCED: | TEST DATE: | HOURS TESTED: | TEST PRODUCTION RATES: → | OIL – BBL: | GAS – MCF: | WATER – BBL: | PROD. METHOD: |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

| CHOKE SIZE: | TBG. PRESS. | CSG. PRESS. | API GRAVITY | BTU – GAS | GAS/OIL RATIO | 24 HR PRODUCTION RATES: → | OIL – BBL: | GAS – MCF: | WATER – BBL: | INTERVAL STATUS: |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | |

**32. DISPOSITION OF GAS (Sold, Used for Fuel, Vented, Etc.)**

**33. SUMMARY OF POROUS ZONES (Include Aquifers):**

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

| Formation | Top (MD) | Bottom (MD) | Descriptions, Contents, etc. |
|---|---|---|---|
| | | | |

**34. FORMATION (Log) MARKERS:**

| Name | Top (Measured Depth) |
|---|---|
| GREEN RIVER | 1,542 |
| BIRD'S NEST | 1,929 |
| MAHOGANY | 2,386 |
| WASATCH | 4,885 |
| MESAVERDE | 7,499 |

**35. ADDITIONAL REMARKS (Include plugging procedure)**

The first 210'of the surface hole was drilled with a 12 ¼" bit. The remainder of surface hole was drilled with an 11" bit. Attached is the chronological well history, perforation report & final survey. The cement remediation procedure was performed as per NOI which was approved 10/12/2011.

**36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records.**

NAME (PLEASE PRINT) GINA BECKER TITLE REGULATORY ANALYST

SIGNATURE  DATE 11/29/2011

This report must be submitted within 30 days of

- completing or plugging a new well
- drilling horizontal laterals from an existing well bore
- recompleting to a different producing formation
- reentering a previously plugged and abandoned well
- significantly deepening an existing well bore below the previous bottom-hole depth
- drilling hydrocarbon exploratory holes, such as core samples and stratigraphic tests

* ITEM 20: Show the number of completions if production is measured separately from two or more formations.

** ITEM 24: Cement Top – Show how reported top(s) of cement were determined (circulated (CIR), calculated (CAL), cement bond log (CBL), temperature survey (TS)).

Send to: Utah Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Box 145801
Salt Lake City, Utah 84114-5801

Phone: 801-538-5340

Fax: 801-359-3940



(5/2000)

US ROCKIES REGION

## Operation Summary Report

| | | |
|---|---|---|
| Well: NBU 921-35J1BS RED | Spud Conductor: 6/17/2011 | Spud Date: 6/23/2011 |
| Project: UTAH-UINTAH | Site: NBU 921-35G PAD | Rig Name No: PROPETRO 12/12, H&P 311/311 |
| Event: DRILLING | Start Date: 6/11/2011 | End Date: 7/18/2011 |
| Active Datum: RKB @5,144.00usft (above Mean Sea Level) | UWI: SW/NE/0/9/S/21/E/35/0/0/26/PM/N/2053/E/0/1613/0/0 | |

| Date | Time Start-End | Duration (hr) | Phase | Code | Sub Code | P/U | MD From (usft) | Operation |
|---|---|---|---|---|---|---|---|---|
| 6/22/2011 | 11:00 - 18:00 | 7.00 | MIRU | 01 | A | P | | MOVE EQUIPMENT ONTO LOCATION, DRESS TOP OF CONDUCTOR. INSTALL DIVERTER HEAD AND BOWIE LINE. BUILD DITCH. |
| | 18:00 - 0:00 | 6.00 | MAINT | 08 | A | Z | | RIG IS STILL IN VERNAL SHOP, WORKING ON TOP DRIVE |
| 6/23/2011 | 9:00 - 16:00 | 7.00 | MIRU | 01 | B | P | | BUILD DITCH. MOVE RIG OVER HOLE AND RIG UP. SET CATWALK AND PIPE RACKS. RIG UP AND PRIME PIT PUMP AND MUD PUMP. |
| | 16:00 - 16:30 | 0.50 | PRPSPD | 01 | B | P | | P/U 1.83 DEG BENT HOUSING HUNTING MTR SN 8007 . 7/8 LOBE .17 RPM. M/U HUGHES 12.25" Q507Z SN 7133231 1ST RUN, W/ 7-18'S. INSTALL RUBBER |
| | 16:30 - 18:30 | 2.00 | DRLSUR | 02 | A | P | | SPUD SURFACE 6/23/2011 16:30 HRS. DRILL 12.25" SURFACE HOLE F/40'-210' (170' @ 113'/HR) PSI ON/ OFF 700/430, UP/ DOWN/ ROT 27/22/25. 450 GPM, 45 RPM ON TOP DRIVE, 15-18K |
| | 18:30 - 0:00 | 5.50 | DRLSUR | 06 | A | P | | TOOH, LD 12.25" BIT, PU 11" HUGHES BIT, PU AND ORIENT DIR TOOLS, TIH T/210', |
| 6/24/2011 | 0:00 - 0:00 | 24.00 | DRLSUR | 02 | C | P | | DRILL/ SLIDE 11" SURFACE HOLE F/ 210'-2260' (2050' @ 85.4/HR) PSI ON/ OFF 1520/1100, UP/ DOWN/ ROT 85/58/68, 150 SPM, 550 GPM, 18-20K WOB, 50 RPM ON TOP DRIVE,MMRPM 88, CIRCULATING RESERVE PIT |
| 6/25/2011 | 0:00 - 1:00 | 1.00 | DRLSUR | 02 | D | P | | DRILL & SLIDE F/ 2260' TO 2320' ( 60' @ 60' HR ) WOB 18-20,TOP DRIVE RPM RPM 50, MMRPM 88, SPM 135, GPM 553, UP/DN/ROT 85-58-68, ON/OFF 1520-1100 |
| | 1:00 - 3:00 | 2.00 | DRLSUR | 08 | B | Z | | RIG REPAIR, LOST BELTS ON MUD PUMP, WORK PIPE TIGHT OFF BOTTOM LAY DOWN 4 JTS |
| | 3:00 - 5:00 | 2.00 | DRLSUR | 02 | D | P | | DRILL & SLIDE F/ 2320' TO 2440' TD ( 120' @ 60' HR), WOB 18-20,TOP DRIVE RPM 50, MMRPM 88, SPM 135, GPM 553, UP/DN/ROT 85-58-68,ON/OFF 1520-1100, 2' EAST 1.75' SOUTH OF LINE |
| | 5:00 - 6:30 | 1.50 | DRLSUR | 05 | C | P | | CIRC HOLE CLEAN |
| | 6:30 - 12:00 | 5.50 | DRLSUR | 06 | A | P | | TOOH LDDS & DIR BHA |
| | 12:00 - 12:30 | 0.50 | DRLSUR | 12 | A | P | | RIG UP TO RUN 8 5/8 SURFACE CSG, MOVE CSG OVER TO WORK AREA |
| | 12:30 - 15:30 | 3.00 | DRLSUR | 12 | C | P | | RUN 54 JTS 8 5/8, 28#,J55, LT&C SURFACE CSG LANDED SHOE @ 2417.70' 18' KB, RAN BAFFLE PLATE IN TOP OF SHOE JT LANDED @2370.90 |

US ROCKIES REGION

# Operation Summary Report

| | | | |
|---|---|---|---|
| Well: NBU 921-35J1BS RED | Spud Conductor: 6/17/2011 | Spud Date: 6/23/2011 | |
| Project: UTAH-UINTAH | Site: NBU 921-35G PAD | | Rig Name No: PROPETRO 12/12, H&P 311/311 |
| Event: DRILLING | Start Date: 6/11/2011 | | End Date: 7/18/2011 |
| Active Datum: RKB @5,144.00usft (above Mean Sea Level) | UWI: SW/NE/0/9/S/21/E/35/0/0/26/PM/N/2053/E/0/1613/0/0 | | |

| Date | Time Start-End | Duration (hr) | Phase | Code | Sub Code | P/U | MD From (usft) | Operation |
|---|---|---|---|---|---|---|---|---|
| | 15:30 - 22:00 | 6.50 | DRLSUR | 12 | E | P | | SAFETY MEETING W/ PRO PETRO CEMENTERS,( RUN 200" OF 1" PIPE DOWN BACK SIDE & DROPPED DOWN HOLE )RUN ANOTHER 200" OF 1" PIPE DOWN BACK SIDE ,INSTALL CEMENTING HEAD, TEST TO 2000 PSI, PUMP 140 BBLS H20 AHEAD, 20 BBLS OF 8.4 GEL WATER AHEAD, 180 SX, 122.5 BBLS ,11#, 3.82 YLD LEAD, 200 SX, 40.9 BBLS 15.8, 1.15 YLD TAIL DISPLACE W/ 147 BBLS WATER, FINAL LIFT 400 PSI ,BUMP PLUG & HOLD 800 PSI F/ 5 MIN ,FLOAT HELD,NO CMT TO SURFACE, 1ST TOP OUT PUMP 100SX, 15.8#, 3.82 YLD 4% CaCl2, 1/4 LB/SK FLOCELE, WAIT 2 HRS, 2ND TOP OUT 125 SX 15,8#, 3.82 YLD, 4% CaCl2, 1/4 LB/SK FLOCELE, WAIT 2 HRS, 3RD TOP OUT 225 SX 4% CaCl2, 1/4 LB/SK FLOCELE, NO CMT TO SURFACE, RIG DOWN CEMENTERS & RELEASE RIGRELEASE |

US ROCKIES REGION

# Operation Summary Report

| | | | |
|---|---|---|---|
| Well: NBU 921-35J1BS RED | Spud Conductor: 6/17/2011 | Spud Date: 6/23/2011 | |
| Project: UTAH-UINTAH | Site: NBU 921-35G PAD | | Rig Name No: PROPETRO 12/12, H&P 311/311 |
| Event: DRILLING | Start Date: 6/11/2011 | | End Date: 7/18/2011 |
| Active Datum: RKB @5,144.00usft (above Mean Sea Level) | UWI: SW/NE/0/9/S/21/E/35/0/0/26/PM/N/2053/E/0/1613/0/0 | | |

| Date | Time Start-End | Duration (hr) | Phase | Code | Sub Code | P/U | MD From (usft) | Operation |
|---|---|---|---|---|---|---|---|---|
| | 22:00 - 22:00 | 0.00 | DRLSUR | | | | | CONDUCTOR CASING:<br>Cond. Depth set:40<br>Cement sx used:28<br><br>SPUD DATE/TIME:6/23/2011 16:30<br><br>SURFACE HOLE:<br>Surface From depth:40<br>Surface To depth:2,440<br>Total SURFACE hours:27.00<br>Surface Casing size:8 5/8<br># of casing joints ran:54<br>Casing set MD:2,417.7<br># sx of cement:<br>Cement blend (ppg:)11/15.8/15.8<br>Cement yield (ft3/sk):3.882/1.15/1.15<br># of bbls to surface:0<br>Describe cement issues:NO CEMENT TO SURFACE<br>Describe hole issues:NONE<br><br>PRODUCTION:<br>Rig Move/Skid start date/time:<br>Rig Move/Skid finish date/time:<br>Total MOVE hours:0.0<br>Prod Rig Spud date/time:<br>Rig Release date/time:<br>Total SPUD to RR hours:0.0<br>Planned depth MD<br>Planned depth TVD<br>Actual MD:<br>Actual TVD:<br>Open Wells $:<br>AFE $:<br>Open wells $/ft:#DIV/0!<br><br>PRODUCTION HOLE:<br>Prod. From depth:<br>Prod. To depth:<br>Total PROD hours:<br>Log Depth:<br>Float Collar Top Depth:<br>Production Casing size:<br># of casing joints ran:<br>Casing set MD:<br># sx of cement:<br>Cement blend (ppg:)<br>Cement yield (ft3/sk):<br>Est. TOC (Lead & Tail) or 2 Stage :<br>Describe cement issues:<br>Describe hole issues:<br><br>DIRECTIONAL INFO:<br>KOP:<br>Max angle:<br>Departure: |

US ROCKIES REGION

# Operation Summary Report

| | | | |
|---|---|---|---|
| Well: NBU 921-35J1BS RED | Spud Conductor: 6/17/2011 | Spud Date: 6/23/2011 | |
| Project: UTAH-UINTAH | Site: NBU 921-35G PAD | | Rig Name No: PROPETRO 12/12, H&P 311/311 |
| Event: DRILLING | Start Date: 6/11/2011 | | End Date: 7/18/2011 |
| Active Datum: RKB @5,144.00usft (above Mean Sea Level) | UWI: SW/NE/0/9/S/21/E/35/0/0/26/PM/N/2053/E/0/1613/0/0 | | |

| Date | Time Start-End | Duration (hr) | Phase | Code | Sub Code | P/U | MD From (usft) | Operation |
|---|---|---|---|---|---|---|---|---|
| 7/7/2011 | 18:00 - 21:00 | 3.00 | DRLPRO | 01 | E | P | | RD MUD TANKS, SHALE SHAKERS, & MUD PUMPS. DOCK TOP DRIVE AND BLOCKS, PREPARE DERRICK TO LAY DOWN, PREPARE FLOOR FOR THE MOVE. |
| | 21:00 - 0:00 | 3.00 | DRLPRO | 21 | C | P | | W/O DAYLIGHT AND TRUCKS TO MOVE |
| 7/8/2011 | 0:00 - 7:00 | 7.00 | RDMO | 21 | C | P | | WAITING ON DAYLIGHT TO MOVE EQUIPMENT |
| | 7:00 - 14:00 | 7.00 | RDMO | 01 | E | P | | RIG DOWN THE ELECTRICAL, CAMPS, FLARE LINES, LOWER AND SPLIT THE DERRICK.BEGIN LOADING OUT THE SUB, LOAD OUT THE PITS, PUMPS, GEN HOUSE, UPRIGHTS, FRAC TANKS, CEMENT BINS, PIIPE BASKETS,PUMPS,BAR HOPPER. |
| | 14:00 - 19:00 | 5.00 | MIRU | 01 | B | P | | SET IN PUMPS, PITS, CHOKE HOUSE, GEN HOUSE, CAMPS, SET THE SUB SECTIONS,. WE HAD 4 FLAT BED TRUCKS, 4 FLOATS, 2 FORKLIFTS, 3 SWAMPERS, 2 SAFETY HANDS, 2 TRUCK PUSHERS, 2 CRANES W/ 4 PEOPLE.2 HP SAFETY PERSONEL. |
| | 19:00 - 0:00 | 5.00 | MIRU | 21 | C | P | | W/O DAYLIGHT TO CONTINUE RIGGING UP |
| 7/9/2011 | 0:00 - 7:00 | 7.00 | DRLPRO | 21 | C | P | | W/O DAYLIGHT TO SET EQUIPMENT AND RU |
| | 7:00 - 18:00 | 11.00 | DRLPRO | 01 | B | P | | BROUGHT UP THE 2 DERRICK HALVES, SET AND RAISED THE DERRICK.RAN ELECTRIC CABLES, MUD LINES, WATER LINES, SET THE FLARE LINES OUT. SET OUT SAFETY EQUIPMENT, FINISHED SETTING FRAC TANKS, CEMENT BINS, AND BAR HOPPER. WE HAD 2 TRUCKS, 1-FORKLIFT, 1 SWAMPER, 1-PUSHER, 1 CRANE AND 3 CRANE PERSONEL, 1 HP SAFETY HAND AND 2 EXTRA HP HANDS. TRUCKS RELEASED @ 17:00, CRANE RELEASED @ 18:00 |
| | 18:00 - 0:00 | 6.00 | DRLPRO | 01 | B | P | | CONTINUE TO RIG UP THE FLOOR, PITS AND PUMPS |
| 7/10/2011 | 0:00 - 2:30 | 2.50 | MIRU | 01 | B | P | | RU THE PITS, AND FLOOR, CHECK OUT THE TOP DRIVE AND REPLACE THE GRABBER DIES |
| | 2:30 - 6:00 | 3.50 | MIRU | 14 | A | P | | NU THE BOP |
| | 6:00 - 11:00 | 5.00 | MIRU | 01 | B | P | | RU THE FLOW LINE, FILL/CHECK AND REPAIR LEAKS ON THE PITS. PRESSURE TEST THE MUD LINES AND CHECK FOR LEAKS. INSTALL WATER LINES, RUN RIG POWER TO THE CAMPS. |
| | 11:00 - 14:30 | 3.50 | DRLPRO | 15 | A | P | | RU THE TESTER. TEST THE BOP, TIW, IBOP, DART VALVE, BOP VALVES, PIPE RAMS, BLIND RAMS, CHOKE VALVES AND KILL LINE TO 250#/5MIN AND 5000#/10 MIN. TESTED THE ANNULAR TO 2500#, |
| | 14:30 - 15:00 | 0.50 | DRLPRO | 15 | A | P | | TESTED THE SURFACE CASING TO 1500#/30 MIN. |
| | 15:00 - 15:30 | 0.50 | DRLPRO | 14 | B | P | | INSTALLED THE WEAR BUSHING |
| | 15:30 - 20:30 | 5.00 | DRLPRO | 06 | A | P | | PU/ SCRIBE THE DIRECTIONAL ASSY., PU THE BHA AND DP TO 2360' |
| | 20:30 - 21:30 | 1.00 | DRLPRO | 14 | B | P | | INSTALL ROT RUBBER, RD THE LD TRUCK |
| | 21:30 - 0:00 | 2.50 | DRLPRO | 02 | F | P | | TAGGED CEMENT @ 2360' DRILLED CEMENT AND FLOAT EQUIP. TO 2461' |

US ROCKIES REGION

# Operation Summary Report

| | | | |
|---|---|---|---|
| Well: NBU 921-35J1BS RED | Spud Conductor: 6/17/2011 | Spud Date: 6/23/2011 | |
| Project: UTAH-UINTAH | Site: NBU 921-35G PAD | | Rig Name No: PROPETRO 12/12, H&P 311/311 |
| Event: DRILLING | Start Date: 6/11/2011 | | End Date: 7/18/2011 |
| Active Datum: RKB @5,144.00usft (above Mean Sea Level) | UWI: SW/NE/0/9/S/21/E/35/0/0/26/PM/N/2053/E/0/1613/0/0 | | |

| Date | Time Start-End | Duration (hr) | Phase | Code | Sub Code | P/U | MD From (usft) | Operation |
|---|---|---|---|---|---|---|---|---|
| 7/11/2011 | 0:00 - 6:00 | 6.00 | DRLPRO | 02 | D | P | | DRILLED 2461'-3020", 559'/6 HRS, 93.2 FPH. WOB/25K, PUMP/110 SPM, 495 GPM, MM/ 104 RPM,TD/60 RPM ON/OFF BOTTOM PUMP PRESSURE 1000/800. DIFF PRESS. 200-400# ON/OFF BOTTOM TORQUE/6/4K. PU/SO/ROT 115/83/98 CIRCULATING THE RESERVE PIT AND PUMP GEL SWEEPS. ROT 489'/5 HR 97.8'/HR SLID 70'/1 HR 70'/HR |
| | 6:00 - 17:30 | 11.50 | DRLPRO | 02 | D | P | | DRILLED3020'-5034', 2014'/11.5 HRS, 175.1 FPH. WOB/25K, PUMP/110 SPM, 495 GPM, MM/ 104 RPM,TD/60 RPM ON/OFF BOTTOM PRESSURE 1600/1100. DIFF PRESS. 400-550#, ON/OFF BOTTOM TORQUE/8/3K. PU/SO/ROT 161/104/125 CIRCULATING THE RESERVE PIT AND PUMP GEL SWEEPS. ROT 1944'/10.62 HR 183.1'/HR SLID 70'/.88 HR 79.5'/HR |
| | 17:30 - 18:00 | 0.50 | DRLPRO | 07 | A | P | | RIG SERVICE |
| | 18:00 - 0:00 | 6.00 | DRLPRO | 02 | D | P | | DRILLED 5034-5745', 711'/6 HRS, 118.5 FPH. WOB/25K, PUMP/110 SPM, 495 GPM, MM/ 104 RPM,TD/60 RPM ON/OFF BOTTOM PRESSURE 1700/1200. DIFF PRESS. 400-550#, ON/OFF BOTTOM TORQUE/12/8K. PU/SO/ROT 183/109/141 H2O CIRCULATING THE RESERVE PIT AND PUMP GEL SWEEPS. ROT 680'/5.25 HR 129.5'/HR SLID 31'/.75 HR 41'/HR |
| 7/12/2011 | 0:00 - 6:00 | 6.00 | DRLPRO | 02 | D | P | | DRILLED 5745'-6332',587'/6 HRS, 97.8'/FPH. WOB/25K, PUMP/110 SPM, 495 GPM, MM/ 104 RPM,TD/60 RPM ON/OFF BOTTOM PRESSURE 1700/1200. DIFF PRESS. 400-550#, ON/OFF BOTTOM TORQUE/8/6K. PU/SO/ROT 200/115/148 H2O CIRCULATING THE RESERVE PIT AND PUMP GEL SWEEPS. LOST APP. 1400 BBL. OF WATER F/ THE RESERVE PIT. STARTED A LIGHT MUD UP @ 6250" TO CONTROL LOSSES ROT 579'/5.83 HR 99.3'/HR SLID 8'/.17 HR 47'/HR |
| | 6:00 - 17:30 | 11.50 | DRLPRO | 02 | D | P | | DRILLED 6332'-7235',903'/11.5 HRS, 78.5'/FPH. WOB/22-25K, PUMP/110 SPM, 495 GPM, MM/ 104 RPM,TD/60 RPM ON/OFF BOTTOM PRESSURE 1860/1610. DIFF PRESS. 250-400#, ON/OFF BOTTOM TORQUE/8/6K. PU/SO/ROT 205/135/158 LOST 400 BBL. OF MUD. 34/VIS, 9.7/WT., 18%/LCM 6-12' CONN. FLARE ROT ,903'/11.5 HRS, 78.5'/FPH SLID ---------- |
| | 17:30 - 18:00 | 0.50 | DRLPRO | 07 | A | P | | RIG SERVICE BOP DRILL |

US ROCKIES REGION

# Operation Summary Report

| | | | |
|---|---|---|---|
| Well: NBU 921-35J1BS RED | Spud Conductor: 6/17/2011 | Spud Date: 6/23/2011 | |
| Project: UTAH-UINTAH | Site: NBU 921-35G PAD | | Rig Name No: PROPETRO 12/12, H&P 311/311 |
| Event: DRILLING | Start Date: 6/11/2011 | | End Date: 7/18/2011 |
| Active Datum: RKB @5,144.00usft (above Mean Sea Level) | UWI: SW/NE/0/9/S/21/E/35/0/0/26/PM/N/2053/E/0/1613/0/0 | | |

| Date | Time Start-End | Duration (hr) | Phase | Code | Sub Code | P/U | MD From (usft) | Operation |
|---|---|---|---|---|---|---|---|---|
| | 18:00 - 0:00 | 6.00 | DRLPRO | 02 | D | P | | DRILLED 7235'-7560',325'/6 HRS, 54.2'/FPH.<br>WOB/23-25K, PUMP/100 SPM, 450 GPM, MM/ 95 RPM,TD/60 RPM<br>ON/OFF BOTTOM PRESSURE 2380/1870.<br>DIFF PRESS. 300-400#,<br>ON/OFF BOTTOM TORQUE/8/7K.<br>PU/SO/ROT 210/135/165<br>LOST 210 BBL. OF MUD.<br>34/VIS, 10/WT., 20%/LCM<br>6-12' CONN. FLARE<br>ROT 319'/5.67HR 56.3'/HR<br>SLID 6'/.33HR 18'/HR |
| 7/13/2011 | 0:00 - 6:00 | 6.00 | DRLPRO | 02 | D | P | | DRILLED 7560'-7832',272'/6 HRS, 45.3'/FPH.<br>WOB/23-25K, PUMP/100 SPM, 450 GPM,<br>MM/ 95 RPM,TD/60 RPM<br>ON/OFF BOTTOM PRESSURE 2380/1870.<br>DIFF PRESS. 300-400#,<br>ON/OFF BOTTOM TORQUE/8/7K.<br>PU/SO/ROT 215/140/164<br>36/VIS, 10.2/WT., 20%/LCM<br>NO CONN. FLARE<br>ROT 272'/6HR 45.3'/HR<br>SLIDE ---------<br>LOST APP. 300BBL. |
| | 6:00 - 15:30 | 9.50 | DRLPRO | 02 | D | P | | DRILLED 7832'-8304' ,472'/9.5 HRS, 49.7'/FPH.<br>WOB/23-25K, PUMP/95 SPM, 396 GPM,<br>MM/ 83 RPM,TD/60 RPM<br>ON/OFF BOTTOM PRESSURE 2150/1800.<br>DIFF PRESS. 300-400#,<br>ON/OFF BOTTOM TORQUE/8/7K.<br>PU/SO/ROT 230/143/172<br>36/VIS, 11.1/WT., 20%/LCM<br>6-20' CONN. FLARE @ 8150'-8300'<br>ROT 466'/9.17HR, 50.8'/HR<br>SLIDE 6'/.33HR, 18'/HR<br>LOST APP. 190 BBL. |
| | 15:30 - 16:00 | 0.50 | DRLPRO | 07 | A | P | | RIG SERVICE |
| | 16:00 - 0:00 | 8.00 | DRLPRO | 02 | D | P | | DRILLED 8304'-8587',283'/8 HRS, 35.4'/FPH.<br>WOB/23-25K, PUMP/90 SPM, 375 GPM,<br>MM/ 79 RPM,TD/60 RPM<br>ON/OFF BOTTOM PRESSURE 1925/1675.<br>DIFF PRESS. 300-400#,<br>ON/OFF BOTTOM TORQUE 12/8K.<br>PU/SO/ROT 235/150/175<br>38/VIS, 11.2/WT., 20%/LCM<br>ROT 253'/5.92HR, 42.7'/HR<br>SLIDE 30'/2.08HR, 14.4'/HR<br>LOST APP. 90 BBL. |

US ROCKIES REGION

# Operation Summary Report

| | | | |
|---|---|---|---|
| Well: NBU 921-35J1BS RED | Spud Conductor: 6/17/2011 | Spud Date: 6/23/2011 | |
| Project: UTAH-UINTAH | Site: NBU 921-35G PAD | | Rig Name No: PROPETRO 12/12, H&P 311/311 |
| Event: DRILLING | Start Date: 6/11/2011 | | End Date: 7/18/2011 |
| Active Datum: RKB @5,144.00usft (above Mean Sea Level) | UWI: SW/NE/0/9/S/21/E/35/0/0/26/PM/N/2053/E/0/1613/0/0 | | |

| Date | Time Start-End | Duration (hr) | Phase | Code | Sub Code | P/U | MD From (usft) | Operation |
|---|---|---|---|---|---|---|---|---|
| 7/14/2011 | 0:00 - 6:00 | 6.00 | DRLPRO | 02 | D | P | | DRILLED 8587'-8740',153'6 HRS, 25.5'/FPH.<br>WOB/23-25K, PUMP/90 SPM, 405 GPM,<br>MM/85 RPM,TD/60 RPM<br>ON/OFF BOTTOM PRESSURE 1925/1675.<br>DIFF PRESS. 300-400#,<br>ON/OFF BOTTOM TORQUE 12/8K.<br>PU/SO/ROT 240/150/178<br>38/VIS, 11.5/WT., 20%/LCM<br>ROT 133'/4.75HR, 28'/HR<br>SLIDE 20'/1.25HR, 16'/HR<br>LOST APP. 60 BBL. |
| | 6:00 - 14:30 | 8.50 | DRLPRO | 02 | D | P | | DRILLED 8740'-8964',224'/8.5 HRS, 26.5'/FPH.<br>WOB/23-25K, PUMP/90 SPM, 405 GPM,<br>MM/ 85 RPM,TD/60 RPM<br>ON/OFF BOTTOM PRESSURE 1925/1675.<br>DIFF PRESS. 300-400#,<br>ON/OFF BOTTOM TORQUE 12/8K.<br>PU/SO/ROT 246/155/181<br>38/VIS, 11.7/WT., 20%/LCM<br>ROT 199'/ 6.25HR, 31.8'/HR<br>SLIDE 25'/ 2.25HR, 11.1'/HR<br>LOST APP. 80 BBL. |
| | 14:30 - 15:00 | 0.50 | DRLPRO | 07 | A | P | | RIG SERVICE |
| | 15:00 - 19:00 | 4.00 | DRLPRO | 02 | D | P | | DRILLED 8964'-9049',85'/4 HRS, 21.25'/FPH.<br>WOB/23-25K, PUMP/90 SPM, 405 GPM,<br>MM/ 85 RPM,TD/60 RPM<br>ON/OFF BOTTOM PRESSURE 1925/1675.<br>DIFF PRESS. 300-400#,<br>ON/OFF BOTTOM TORQUE 12/8K.<br>PU/SO/ROT 246/155/181<br>38/VIS, 11.9/WT., 20%/LCM<br>ROT 199'/ 6.25HR, 31.8'/HR<br>SLIDE 25'/ 2.25HR, 11.1'/HR<br>20' FLARE AFTER RS ON BOTTOMS UP<br>LOST APP. 10 BBL. |
| | 19:00 - 20:00 | 1.00 | DRLPRO | 05 | C | P | | CIRC. , PUMP PILL, FLOW CHECK/NO FLOW |
| | 20:00 - 0:00 | 4.00 | DRLPRO | 06 | A | P | | TOH F/ BIT #2 |
| 7/15/2011 | 0:00 - 6:30 | 6.50 | DRLPRO | 06 | A | P | | PU A Q506F, A STRAIGHT MUD MOTOR, AND TIH.<br>BROKE CIRC @ THE SHOE, AND 6000' |
| | 6:30 - 7:00 | 0.50 | DRLPRO | 03 | D | P | | REAM F/ 8960'-9049'. PRECAUTIONARY. HAD A 30'<br>FLARE ON BOTTOMS UP. |
| | 7:00 - 18:00 | 11.00 | DRLPRO | 02 | D | P | | DRILLED 9049'-9375',326'/11 HRS,29.6'/FPH.<br>WOB/23-25K, PUMP/90 SPM, 360 GPM,<br>MM/ 65 RPM,TD/60 RPM<br>ON/OFF BOTTOM PRESSURE 1750/1550.<br>DIFF PRESS.200-350#,<br>ON/OFF BOTTOM TORQUE 10/8K.<br>PU/SO/ROT 236/155/181<br>38/VIS, 12.4/WT., 20%/LCM<br>LOST APP. 290 BBL. |
| | 18:00 - 18:30 | 0.50 | DRLPRO | 07 | A | P | | RIG SERVICE |

US ROCKIES REGION

# Operation Summary Report

| | | | |
|---|---|---|---|
| Well: NBU 921-35J1BS RED | Spud Conductor: 6/17/2011 | Spud Date: 6/23/2011 | |
| Project: UTAH-UINTAH | Site: NBU 921-35G PAD | | Rig Name No: PROPETRO 12/12, H&P 311/311 |
| Event: DRILLING | Start Date: 6/11/2011 | | End Date: 7/18/2011 |
| Active Datum: RKB @5,144.00usft (above Mean Sea Level) | UWI: SW/NE/0/9/S/21/E/35/0/0/26/PM/N/2053/E/0/1613/0/0 | | |

| Date | Time Start-End | Duration (hr) | Phase | Code | Sub Code | P/U | MD From (usft) | Operation |
|---|---|---|---|---|---|---|---|---|
| | 18:30 - 0:00 | 5.50 | DRLPRO | 02 | D | P | | DRILLED 9375'-9525',150'/5.5 HRS,27.3'/FPH. WOB/23-25K, PUMP/90 SPM, 360 GPM, MM/ 65 RPM,TD/60 RPM ON/OFF BOTTOM PRESSURE 1750/1550. DIFF PRESS.200-350#, ON/OFF BOTTOM TORQUE 10/8K. PU/SO/ROT 250/155/178 38/VIS, 12.3/WT., 20%/LCM LOST APP. 350 BBL. |
| 7/16/2011 | 0:00 - 12:30 | 12.50 | DRLPRO | 02 | D | P | | DRILLED 9525'-9850,325'/12.5 HRS,26'/FPH. WOB/23-25K, PUMP/90 SPM,405 GPM, MM/ 65 RPM,TD/60 RPM ON/OFF BOTTOM PRESSURE 1750/1550. DIFF PRESS.200-350#, ON/OFF BOTTOM TORQUE 10/8K. PU/SO/ROT 244/165/188 41/VIS, 12.3/WT., 25%/LCM LOST APP. 50 BBL. |
| | 12:30 - 13:30 | 1.00 | DRLPRO | 05 | C | P | | CIRC PRIOR TO WIPER TRIP |
| | 13:30 - 16:30 | 3.00 | DRLPRO | 06 | E | P | | WIPER TRIP TO THE SHOE NO HOLE ISSUES |
| | 16:30 - 17:00 | 0.50 | DRLPRO | 07 | A | P | | RIG SERVICE |
| | 17:00 - 20:00 | 3.00 | DRLPRO | 06 | E | P | | TIH NO FILL NO DRAG BREAK CIRC. |
| | 20:00 - 22:00 | 2.00 | DRLPRO | 05 | C | P | | CIRC/COND F/ LOGS 20' FLARE BOTTOMS UP |
| | 22:00 - 22:30 | 0.50 | DRLPRO | 06 | B | P | | DROP SURVEY & FLOW CHECK |
| | 22:30 - 0:00 | 1.50 | DRLPRO | 06 | B | P | | TOH F/ LOGS |
| 7/17/2011 | 0:00 - 2:30 | 2.50 | DRLPRO | 06 | B | P | | TOH F/ LOGS |
| | 2:30 - 3:00 | 0.50 | DRLPRO | 14 | B | P | | PULLED THE WEAR BUSHING |
| | 3:00 - 9:30 | 6.50 | DRLPRO | 11 | D | P | | S/M W/ HALLIBURTON. RU AND RAN THE TRIPLE COMBO LOG. DRILLERS TD 9850' LOGGERS TD 9855' |
| | 9:30 - 20:00 | 10.50 | DRLPRO | 12 | C | P | | S/M RU FRANKS WESTATE AND RAN A TOTAL OF 236 JTS: 3 JT/4.5"/11.6#/ HCP-110/BTC, 231 JT. + 2 MARKERS OF 4.5"/ 11.6# / I-80 / BTC CASING. LANDED @ 9828'MD/9709' TVD. FC/ 9780.3' MD, MARKERS @ 7579.5' & 4846.6' MD |
| | 20:00 - 21:00 | 1.00 | DRLPRO | 05 | D | P | | CIRC CASING ON BOTTOM. BOTTOMS UP FLARE 10' |
| | 21:00 - 0:00 | 3.00 | DRLPRO | 12 | E | P | | S/M W/ BJ RU AND PUMPED 5 BBL. SPACER, 20 SX OF SCAVENGER CEMENT @ 11.3# /2.83 YLD, 530SX OF LEAD CEMENT @ 12.3#/ 2.12 YLD., FOLLOWED BY 1050 SX OF TAIL CEMENT 14.3#/ 1.31 YLD. DISPLACED W/ 152 BBL. OF CLAY TREAT WATER. FINAL LIFT 2750, BUMPED THE PLUG W/3130# @7/17/2011 23:30. HELD PRESSURE FOR 5 MIN. 1.5 BBL. BACK TO THE TRUCK. 10 BBL SCAVENGER AND 7 BBL. OF CEMENT BACK TO THE PIT R/D BJ CEMENTERS |
| 7/18/2011 | 0:00 - 1:00 | 1.00 | DRLPRO | 14 | A | P | | ND BOP SET 122K WT ON C-22 SLIPS RELEASED THE RIG @ 01:00 |

US ROCKIES REGION

# Operation Summary Report

| | | | |
|---|---|---|---|
| Well: NBU 921-35J1BS RED | Spud Conductor: 6/17/2011 | Spud Date: 6/23/2011 | |
| Project: UTAH-UINTAH | Site: NBU 921-35G PAD | | Rig Name No: PROPETRO 12/12, H&P 311/311 |
| Event: DRILLING | Start Date: 6/11/2011 | | End Date: 7/18/2011 |
| Active Datum: RKB @5,144.00usft (above Mean Sea Level) | UWI: SW/NE/0/9/S/21/E/35/0/0/26/PM/N/2053/E/0/1613/0/0 | | |

| Date | Time Start-End | Duration (hr) | Phase | Code | Sub Code | P/U | MD From (usft) | Operation |
|---|---|---|---|---|---|---|---|---|
| | 1:00 - 1:00 | 0.00 | DRLPRO | | | | | PRODUCTION:<br>Rig Move/Skid start date/time:7/7/2011 18:00<br>Rig Move/Skid finish date/time:7/9/2011 17:00<br>Total MOVE hours:47.0<br>Prod Rig Spud date/time:7/10/2011 21:30<br>Rig Release date/time:7/18/2011 1:00<br>Total SPUD to RR hours:171.5<br>Planned depth MD9,841<br>Planned depth TVD9,722<br>Actual MD:9,850<br>Actual TVD:9,731<br>Open Wells<br>AFE $<br>Open wells $/ft:<br><br>PRODUCTION HOLE:7 7/8"<br>Prod. From depth:2,641<br>Prod. To depth:9,850<br>Total PROD hours: 118<br>Log Depth:9855<br>Float Collar Top Depth:9780<br>Production Casing size:4 1/2"<br># of casing joints ran:236<br>Casing set MD:9,828.1<br># sx of cement:20/SCAVENGER/ 530 LEAD/ 1050 TAIL<br>Cement blend (ppg:)11.3#SCAVENGER/ 12.3# LEAD/14.3# TAIL<br>Cement yield (ft3/sk):2.83 SCAVENGER/2.12 LEAD / 1.31 TAIL<br>Est. TOC (Lead & Tail) or 2 Stage :25' LEAD/3810 TAIL<br>Describe cement issues:<br>Describe hole issues:<br><br>DIRECTIONAL INFO:<br>KOP:0<br>Max angle:21.73<br>Departure:560.77<br>Max dogleg MD:2.16 |

# 1 General

## 1.1 Customer Information

| | |
|---|---|
| Company | US ROCKIES REGION |
| Representative | |
| Address | |

## 1.2 Well/Wellbore Information

| | | | |
|---|---|---|---|
| Well | NBU 921-35J1BS RED | Wellbore No. | OH |
| Well Name | NBU 921-35J1BS | Wellbore Name | NBU 921-35J1BS |
| Report No. | 1 | Report Date | 9/15/2011 |
| Project | UTAH-UINTAH | Site | NBU 921-35G PAD |
| Rig Name/No. | | Event | COMPLETION |
| Start Date | 9/15/2011 | End Date | 10/28/2011 |
| Spud Date | 6/23/2011 | Active Datum | RKB @5,144.00usft (above Mean Sea Level) |
| UWI | SW/NE/0/9/S/21/E/35/0/0/26/PM/N/2053/E/0/1613/0/0 | | |

## 1.3 General

| | | | | | |
|---|---|---|---|---|---|
| Contractor | CASEDHOLE SOLUTIONS | Job Method | PERFORATE | Supervisor | ED GUDAC |
| Perforated Assembly | PRODUCTION CASING | Conveyed Method | WIRELINE | | |

## 1.4 Initial Conditions

| | | | |
|---|---|---|---|
| Fluid Type | | Fluid Density | |
| Surface Press | | Estimate Res Press | |
| TVD Fluid Top | | Fluid Head | |
| Hydrostatic Press | | Press Difference | |
| Balance Cond | NEUTRAL | | |

## 1.5 Summary

| | | | |
|---|---|---|---|
| Gross Interval | 7,514.0 (usft)-9,642.0 (usft | Start Date/Time | 9/19/2011 12:00AM |
| No. of Intervals | 27 | End Date/Time | 9/19/2011 12:00AM |
| Total Shots | 192 | Net Perforation Interval | 63.00 (usft) |
| Avg Shot Density | 3.05 (shot/ft) | Final Surface Pressure | |
| | | Final Press Date | |

# 2 Intervals

## 2.1 Perforated Interval

| Date | Formation/ Reservoir | CCL@ (usft) | CCL-TS (usft) | MD Top (usft) | MD Base (usft) | Shot Density (shot/ft) | Misfires/ Add. Shot | Diameter (in) | Carr Type /Carr Manuf | Carr Size (in) | Phasing (°) | Charge Desc /Charge Manufacturer | Charge Weight (gram) | Reason | Misrun |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9/19/2011 12:00AM | MESAVERDE/ | | | 7,514.0 | 7,522.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |

## 2.1 Perforated Interval (Continued)

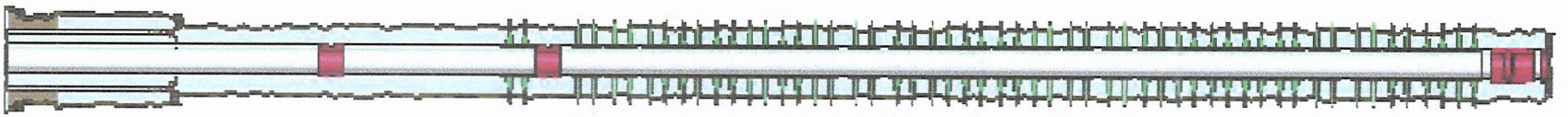
| Date | Formation/ Reservoir | CCL@ (usft) | CCL-TS (usft) | MD Top (usft) | MD Base (usft) | Shot Density (shot/ft) | Misfires/ Add. Shot | Diameter (in) | Carr Type /Carr Manuf | Carr Size (in) | Phasing (°) | Charge Desc /Charge Manufacturer | Charge Weight (gram) | Reason | Misrun |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9/19/2011 12:00AM | MESAVERDE/ | | | 7,764.0 | 7,766.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 9/19/2011 12:00AM | MESAVERDE/ | | | 7,848.0 | 7,850.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 9/19/2011 12:00AM | MESAVERDE/ | | | 7,936.0 | 7,938.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 9/19/2011 12:00AM | MESAVERDE/ | | | 7,969.0 | 7,971.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 9/19/2011 12:00AM | MESAVERDE/ | | | 8,030.0 | 8,032.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 9/19/2011 12:00AM | MESAVERDE/ | | | 8,070.0 | 8,072.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 9/19/2011 12:00AM | MESAVERDE/ | | | 8,096.0 | 8,098.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 9/19/2011 12:00AM | MESAVERDE/ | | | 8,130.0 | 8,132.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 9/19/2011 12:00AM | MESAVERDE/ | | | 8,296.0 | 8,300.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 9/19/2011 12:00AM | MESAVERDE/ | | | 8,477.0 | 8,481.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 9/19/2011 12:00AM | MESAVERDE/ | | | 8,552.0 | 8,554.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 9/19/2011 12:00AM | MESAVERDE/ | | | 8,596.0 | 8,598.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 9/19/2011 12:00AM | MESAVERDE/ | | | 8,680.0 | 8,682.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 9/19/2011 12:00AM | MESAVERDE/ | | | 8,724.0 | 8,726.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 9/19/2011 12:00AM | MESAVERDE/ | | | 8,807.0 | 8,808.0 | 4.00 | | 0.360 | EXP/ | 3.375 | 90.00 | | 23.00 | PRODUCTION | |
| 9/19/2011 12:00AM | MESAVERDE/ | | | 8,938.0 | 8,940.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 9/19/2011 12:00AM | MESAVERDE/ | | | 9,032.0 | 9,034.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 9/19/2011 12:00AM | MESAVERDE/ | | | 9,064.0 | 9,066.0 | 4.00 | | 0.360 | EXP/ | 3.375 | 90.00 | | 23.00 | PRODUCTION | |
| 9/19/2011 12:00AM | MESAVERDE/ | | | 9,114.0 | 9,116.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 9/19/2011 12:00AM | MESAVERDE/ | | | 9,162.0 | 9,164.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 9/19/2011 12:00AM | MESAVERDE/ | | | 9,216.0 | 9,218.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |

### 2.1 Perforated Interval (Continued)

| Date | Formation/ Reservoir | CCL@ (usft) | CCL-TS (usft) | MD Top (usft) | MD Base (usft) | Shot Density (shot/ft) | Misfires/ Add. Shot | Diameter (in) | Carr Type /Carr Manuf | Carr Size (in) | Phasing (°) | Charge Desc /Charge Manufacturer | Charge Weight (gram) | Reason | Misrun |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9/19/2011 12:00AM | MESAVERDE/ | | | 9,328.0 | 9,330.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 9/19/2011 12:00AM | MESAVERDE/ | | | 9,494.0 | 9,496.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 9/19/2011 12:00AM | MESAVERDE/ | | | 9,554.0 | 9,556.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 9/19/2011 12:00AM | MESAVERDE/ | | | 9,618.0 | 9,620.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 9/19/2011 12:00AM | MESAVERDE/ | | | 9,640.0 | 9,642.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |

## 3 Plots

### 3.1 Wellbore Schematic



US ROCKIES REGION

# Operation Summary Report

| | | |
|---|---|---|
| Well: NBU 921-35J1BS RED | Spud Conductor: 6/17/2011 | Spud Date: 6/23/2011 |
| Project: UTAH-UINTAH | Site: NBU 921-35G PAD | Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3 |
| Event: COMPLETION | Start Date: 9/15/2011 | End Date: 10/28/2011 |
| Active Datum: RKB @5,144.00usft (above Mean Sea Level) | UWI: SW/NE/0/9/S/21/E/35/0/0/26/PM/N/2053/E/0/1613/0/0 | |

| Date | Time Start-End | Duration (hr) | Phase | Code | Sub Code | P/U | MD From (usft) | Operation |
|---|---|---|---|---|---|---|---|---|
| 9/15/2011 | 7:00 - 12:00 | 5.00 | COMP | 33 | C | P | | FILL SURFACE CSG. MIRU B&C QUICK TEST.<br>PSI TEST T/ 1000 PSI. HELD FOR 15 MIN LOST 19 PSI.<br>PSI TEST T/ 3500 PSI. HELD FOR 15 MIN LOST 25 PSI.<br>1ST PSI TEST T/ 7000 PSI. HELD FOR 30 MIN LOST 56 PSI.<br>NO COMMUNICATION WITH SURFACE<br>BLEED OFF PSI. MOVE T/ NEXT WELL. |
| 9/16/2011 | - | | | | | | | |
| 9/19/2011 | 6:45 - 7:00 | 0.25 | COMP | 48 | | P | | HSM, PINCH POINTS |
| | 7:00 - 17:00 | 10.00 | COMP | 36 | E | P | | PERF & FRAC FOLLOWING WELL AS PER DESIGN W/ 30/50 MESH SAND & SLK WTR.<br>ALL CBP'S ARE HALIBURTON 8K CBP'S.<br>REFER TO STIM PJR FOR FLIUD, SAND AND CHEMICL VOLUME PUM'D<br><br>FRAC STG #1] WHP=1,633#, BRK DN PERFS=3,435#, @=6.8 BPM, INJ RT=50.1, INJ PSI=6,135#, INITIAL ISIP=2,902#, INITIAL FG=.74, FINAL ISIP=3,018#, FINAL FG=.75, AVERAGE RATE=49.5, AVERAGE PRESSURE=5,600#, MAX RATE=50.9, MAX PRESSURE=6,332#, NET PRESSURE INCREASE=116#, 22/24 90% CALC PERFS OPEN. X OVER TO WIRE LINE<br><br>PERF STG #2] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=9,360', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW<br><br>FRAC STG #2] WHP=1,652#, BRK DN PERFS=3,640#, @=4.6 BPM, INJ RT=42.3, INJ PSI=5,613#, INITIAL ISIP=2,658#, INITIAL FG=.73, FINAL ISIP=3,176#, FINAL FG=.78, AVERAGE RATE=47.6, AVERAGE PRESSURE=5,924#, MAX RATE=52, MAX PRESSURE=6,254#, NET PRESSURE INCREASE=518#, 18/24 74% CALC PERFS OPEN. X OVER TO WIRE LINE<br><br>PERF STG #3] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=9,096', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW SWIFN. |
| 9/20/2011 | 6:45 - 7:00 | 0.25 | COMP | 48 | | P | | HSM, WORKING AROUND WIRELINE |

US ROCKIES REGION

# Operation Summary Report

| | | |
|---|---|---|
| Well: NBU 921-35J1BS RED | Spud Conductor: 6/17/2011 | Spud Date: 6/23/2011 |
| Project: UTAH-UINTAH | Site: NBU 921-35G PAD | Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3 |
| Event: COMPLETION | Start Date: 9/15/2011 | End Date: 10/28/2011 |
| Active Datum: RKB @5,144.00usft (above Mean Sea Level) | UWI: SW/NE/0/9/S/21/E/35/0/0/26/PM/N/2053/E/0/1613/0/0 | |

| Date | Time Start-End | Duration (hr) | Phase | Code | Sub Code | P/U | MD From (usft) | Operation |
|---|---|---|---|---|---|---|---|---|
| | 7:00 - 17:00 | 10.00 | COMP | 36 | E | P | | 88%FRAC STG #3] WHP=2,385#, BRK DN PERFS=3,814#, @=4.6 BPM, INJ RT=48.9, INJ PSI=6,217#, INITIAL ISIP=3,136#, INITIAL FG=.79, FINAL ISIP=2,700#, FINAL FG=.74, AVERAGE RATE=48.1, AVERAGE PRESSURE=5,860#, MAX RATE=52.1, MAX PRESSURE=6,435#, NET PRESSURE INCREASE=-436#, 21/24 88% CALC PERFS OPEN. X OVER TO WIRE LINE<br><br>PERF STG #4] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=8,756', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW<br><br>FRAC STG #4] WHP=1,732#, BRK DN PERFS=3,333#, @=4.6 BPM, INJ RT=48.5, INJ PSI=6,190#, INITIAL ISIP=2,200#, INITIAL FG=.69, FINAL ISIP=2,724#, FINAL FG=.75, AVERAGE RATE=43.8, AVERAGE PRESSURE=6,217#, MAX RATE=47.2, MAX PRESSURE=6,467#, NET PRESSURE INCREASE=524#, 17/24 69% CALC PERFS OPEN. X OVER TO WIRE LINE<br><br>PERF STG #5] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=8,511', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW<br><br>FRAC STG #5] WHP=1,388#, BRK DN PERFS=3,277#, @=4.4 BPM, INJ RT=44.9, INJ PSI=5,785#, INITIAL ISIP=2,600#, INITIAL FG=.75, FINAL ISIP=2,686#, FINAL FG=76., AVERAGE RATE=50.5, AVERAGE PRESSURE=5,014#, MAX RATE=51.2, MAX PRESSURE=5,804#, NET PRESSURE INCREASE=86#, 18/24 73% CALC PERFS OPEN. X OVER TO WIRE LINE<br><br>PERF STG #6] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=8,162', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW<br><br>FRAC STG #6] WHP=1,178#, BRK DN PERFS=2,249#, @=4.3 BPM, INJ RT=50.7, INJ PSI=4,667#, INITIAL ISIP=1,540#, INITIAL FG=.63, FINAL ISIP=2,254#, FINAL FG=.72, AVERAGE RATE=50.6, AVERAGE PRESSURE=4,496#, MAX RATE=51.6, MAX PRESSURE=4,928#, NET PRESSURE INCREASE=714#, 21/24 88% CALC PERFS OPEN. X OVER TO WIRE LINE<br>SWIFN. |
| 9/21/2011 | 6:15 - 6:30 | 0.25 | COMP | 48 | | P | | HSM, OVER HEAD LOADS |

US ROCKIES REGION

## Operation Summary Report

| | | |
|---|---|---|
| Well: NBU 921-35J1BS RED | Spud Conductor: 6/17/2011 | Spud Date: 6/23/2011 |
| Project: UTAH-UINTAH | Site: NBU 921-35G PAD | Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3 |
| Event: COMPLETION | Start Date: 9/15/2011 | End Date: 10/28/2011 |
| Active Datum: RKB @5,144.00usft (above Mean Sea Level) | UWI: SW/NE/0/9/S/21/E/35/0/0/26/PM/N/2053/E/0/1613/0/0 | |

| Date | Time Start-End | Duration (hr) | Phase | Code | Sub Code | P/U | MD From (usft) | Operation |
|---|---|---|---|---|---|---|---|---|
| | 6:30 - 17:30 | 11.00 | COMP | 36 | E | P | | PERF STG #7] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=8,001', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW<br><br>FRAC STG #7] WHP=1,404#, BRK DN PERFS=2,593#, @=4.2 BPM, INJ RT=49.2, INJ PSI=5,170#, INITIAL ISIP=1,935#, INITIAL FG=.68, FINAL ISIP=2,332#, FINAL FG=.74, AVERAGE RATE=49.4, AVERAGE PRESSURE=4,708#, MAX RATE=49.7, MAX PRESSURE=5,924#, NET PRESSURE INCREASE=397#, 19/24 81% CALC PERFS OPEN. X OVER TO WIRE LINE<br><br>PERF STG #8] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=7,552', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW. SWIFN. |
| 9/22/2011 | 6:30 - 6:45 | 0.25 | COMP | 48 | | P | | HSM, R/D |
| | 6:45 - 6:45 | 0.00 | COMP | 36 | E | P | | FRAC STG #8] WHP=794#, BRK DN PERFS=2,454#, @=4.1 BPM, INJ RT=43.7, INJ PSI=5,391#, INITIAL ISIP=1,380#, INITIAL FG=.62, FINAL ISIP=2,493#, FINAL FG=77., AVERAGE RATE=50.3, AVERAGE PRESSURE=5,123#, MAX RATE=51.6, MAX PRESSURE=5,952#, NET PRESSURE INCREASE=1,113#, 14/24 60% CALC PERFS OPEN. X OVER TO WIRE LINE<br><br>P/U RIH W/ HALIBURTON 8K CBP, SET FOR TOP KILL @=7,464'<br><br>TOTAL FLUID PUMP'D=6,761 BBLS<br>TOTAL SAND PUMP'D=128,540# |

FR = 6759.6

RECEIVED

DEC 0 5 2011

DIV. OF OIL, GAS & MINING

US ROCKIES REGION

# Operation Summary Report

| | | |
|---|---|---|
| Well: NBU 921-35J1BS RED | Spud Conductor: 6/17/2011 | Spud Date: 6/23/2011 |
| Project: UTAH-UINTAH | Site: NBU 921-35G PAD | Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3 |
| Event: COMPLETION | Start Date: 9/15/2011 | End Date: 10/28/2011 |
| Active Datum: RKB @5,144.00usft (above Mean Sea Level) | UWI: SW/NE/0/9/S/21/E/35/0/0/26/PM/N/2053/E/0/1613/0/0 | |

| Date | Time Start-End | Duration (hr) | Phase | Code | Sub Code | P/U | MD From (usft) | Operation |
|---|---|---|---|---|---|---|---|---|
| 10/19/2011 | 7:00 - 15:00 | 8.00 | COMP | 30 | A | P | | 7AM [DAY 7] JSA-- WIRELINE, PSI, RIH W/ PKR, RIG PUMP, USING HAND RAILS.<br><br>SICP=0#. MIRU YESTERDAY AFTERNOON. NDWH, NUBOP. KILL PLUG SET @ 7464'.<br><br>MIRU C.H.S. RIH W/ PERF GUNS & PERF CSG @ 2677-2678 & 2724-2725' USING 3-1/8" EXP GUNS, 23 GM, 0.36, 6 SPF, 12 HOLES. 0# AFTER PERFORATING. (CMT SQZ HOLES)<br>RDMO CASED HOLE SOLUTIONS. FLUID LEVEL @ SURFACE.<br><br>P/U WTFRD H2 PKR & RIH ON NEW 2-3/8" L-80 TBG. [TBG SLM & DRIFTED] SET PKR @ 2715'. PMP DN TBG. BRK DN BTM SET OF PERFS @ 1900# @ .25 BPM. PUMP 5 BBLS @ .25 BPM @ 1100#. PMP DN CSG. BRK DN UPPER SET OF PERFS @ 7503 @ .25 BPM. PUMP 5 BBLS @ .25 BPM @ 400#. PLS PKR. POOH STDG BACK TBG. L/D PKR.<br><br>P/U HLBRTN CCR & RIH ON TBG. SET HLBRTN CCR @ 2688'. P.T. TBG TO 1000#.<br><br>3PM SWI-SDFN. PREP TO PUMP CMT IN AM. |
| 10/20/2011 | 7:00 - 15:00 | 8.00 | COMP | 30 | | P | | 7AM [DAY 8] JSA WITH BJ CEMENTERS.<br>MIRU BJ CEMENTING SERVICES. P.T. SURFACE LINES TO 3000#. CCR @ 2688' & TBG STUNG IN. PMP 3 BBLS F.W. @ .5 BPM @ 1200#. ISIP=900#. STING OUT. MIX, PUMP AND SPOT 5 BBLS, 25 SKS CMT, 15.8#, 1.15 YEILD, CLASS G CMT W/ FL-52 FLUID LOSS. STING IN CCR. STG SQZ CMT INTO PERF HOLES @ 2724'-25'. WITH 4 BBLS CMT IN FORMATION, PRESSURE UP TO 1700#.<br><br>STING OUT OF CCR. PUH W/ EOT @ 2625'. PMP 4 BBLS FRESH WATER @ 1 BPM @ 700#. ISIP=250#. MIX & PUMP 10 BBLS, 50 SKS CMT, 15.8#, 1.15 YEILD, CLASS G CMT W/ FL-52 FLUID LOSS.STG SQZ TO 1000# PUTTING 8 BBLS CMT INTO PERF HOLES @ 2677'-78'. LEFT 1 BBL IN TBG.<br>POOH STDG BACK TBG. L/D BHA. PUMP CSG PSI UP TO 500# AND SHUT IN WELL.<br>RDMO BJ CMT SERVICES.<br><br>3PM SDFD |
| 10/21/2011 | - | | COMP | 30 | | P | | RIG ON STAND BY [DAY 9] -- LET CMT CURE. SURFACE CSG HAD 400#. BLED OFF TO ZERO IN 15 MINUTES THRU 1/2" NEEDLE VALVE. STILL HAD A SLIGHT BLOW. |

US ROCKIES REGION

## Operation Summary Report

| | | | |
|---|---|---|---|
| Well: NBU 921-35J1BS RED | Spud Conductor: 6/17/2011 | Spud Date: 6/23/2011 | |
| Project: UTAH-UINTAH | Site: NBU 921-35G PAD | | Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3 |
| Event: COMPLETION | Start Date: 9/15/2011 | | End Date: 10/28/2011 |
| Active Datum: RKB @5,144.00usft (above Mean Sea Level) | UWI: SW/NE/0/9/S/21/E/35/0/0/26/PM/N/2053/E/0/1613/0/0 | | |

| Date | Time Start-End | Duration (hr) | Phase | Code | Sub Code | P/U | MD From (usft) | Operation |
|---|---|---|---|---|---|---|---|---|
| 10/24/2011 | 7:00 - 17:00 | 10.00 | COMP | 30 | | P | | 7AM [DAY 10] JSA - - DRLG EQUIP, DRLG CMT, PSI, & RIG PUMP.<br><br>SICP=75#. BLEW WELL DOWN. SURFACE CSG BUILT UP TO 400# OVER WEEK END. BLED OFF PSI IN 15 MIN THRU NEDDLE VALVE. STILL SLIGHT STEADY BLOW.<br>9AM. SHUT IN SURFACE CSG & MONITOR PSI THRU OUT DAY. 10AM=225#, 1PM=400#, 4 PM=400#.<br>BLED OFF, STILL SLIGHT BLOW THRU NEDDLE VALVE. SHUT IN & MONITOR.<br><br>CHANGED OUT PIPE RAMS IN BOP. P/U GOOD USED 3-7/8" FLOW TECH SEALED BRG BIT & RIH ON TBG'. TAG TOC @ 2528'. TOP SQZ HOLES @ 2677'-2678'. R/U SWVL & RIG PMP. ESTAB CIRCULATION. P.T. CSG TO 500#. LOST 0# IN 10 MIN. DRILL & C/O 150' HARD CMT.<br>FELL THRU @ BTM PERF @ 2678'. RIH, TAG HLBRTN CCR @ 2688'. D/O CCR IN 5 MINUTES. CONTINUE D/O HARD CMT ON LOWER SQZ PERFS TO 2725' FELL THRU. RIH W/ EOT @ 2740'. R/D SWVL. P.T. CSG TO 1000#. LOST O# IN 20 MIN. POOH STDG BACK TBG. L/D BHA.<br><br>MIRU C.H.S. RIH W/ CBL TOOLS. STACK OUT @ BTM SET OF PERFS @ 2725'. (BTM 1/2 OF CCR??) POOH W/ TOOLS. RIH W/ BIT & TBG TO 3055'. POOH W/ TBG. L/D BHA.<br>RIH AND RUN A CBL-CCL-GR LOG FROM 3000' TO SURFACE. RDMO CHS. 8-5/8" x 28# J-55 LT&C @ 2439'<br><br>5PM SWI-SDFN. |

US ROCKIES REGION

# Operation Summary Report

| | | |
|---|---|---|
| Well: NBU 921-35J1BS RED | Spud Conductor: 6/17/2011 | Spud Date: 6/23/2011 |
| Project: UTAH-UINTAH | Site: NBU 921-35G PAD | Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3 |
| Event: COMPLETION | Start Date: 9/15/2011 | End Date: 10/28/2011 |
| Active Datum: RKB @5,144.00usft (above Mean Sea Level) | UWI: SW/NE/0/9/S/21/E/35/0/0/26/PM/N/2053/E/0/1613/0/0 | |

| Date | Time Start-End | Duration (hr) | Phase | Code | Sub Code | P/U | MD From (usft) | Operation |
|---|---|---|---|---|---|---|---|---|
| 10/25/2011 | 7:00 - | | COMP | 30 | | P | | 7AM [DAY 11] JSA - - W.L. WORK, PSI, CCR, PMPG CMT.<br><br>SHUT IN SURFACE CSG OVERNIGHT=450#. SCP=0#. DBL CHECK SURFACE PSI GAUGE. GAUGE WAS READING CORRECT. BLED OFF SURFACE CSG PSI IN 15 MIN. SLIGHT BLOW THRU 1/2" NEEDLE VALVE.<br><br>MIRU CASED HOLE SOLUTIONS. RIH W/ CBP & PERF GUNS. SET HLBRTN 8K CBP @ 2650'. PERF CSG @ 2445-2446' USING 3-1/8" EXP GUNS, 23GM, 0,36, 90* PHS, 4 SPF. RDMO C.H.S.<br><br>BRK DOWN PERFS W/ RIG PUMP @ 1100# @ 1/4 BPM. PMP'D 10 BBLS @ 800# @ 1BPM. ISIP=600#.<br><br>P/U HLBRTN CCR FOR 4.5 CSG & RIH ON 2-3/8" L-80 TBG. SET CCR @ 2403'. P.T. TBG TO 1000#. STING INTO CCR. WAIT ON HLBRTN CEMENTERS FOR 2 HRS.<br><br>MIRU HLBRTN. HLD JSA. P.T. PUMP & LINES TO 4000#. FILL 4.5 CSG & HOLD 500#. 2" SURFACE CASING VALVE OPEN W/ 2" LINE TO PIT. PMP 3 BBLS FW, MIX & PMP 5 BBLS, 25 SKS, 15.8#, 1.15 YEILD, 2% CAL. - - MIX & PMP 5 BBLS, 25 SKS, 15.8#, 1.15 YEILD, CLASS G CMT. STEP SQZ 3 X. CALC NO CMT IN TBG. W/ 500# SQZ. STING OUT, REVERSE CIRC TBG CLN W/ 16 BBLS. 1 BBL CMT FOUND IN RETURNS. POOH & L/D 7 JTS. EOT @ 2180'. RDMO HLBRTN.<br><br>6PM SWI-SDFN. INTALLED POP OFF ASSEMBLY ON SURFACE CSG--. 0# ON GAUGE.<br>SEEN NO COMMUNICATION ON SURFACE CSG TODAY WHEN PMPG CMT. |

US ROCKIES REGION

## Operation Summary Report

| | | |
|---|---|---|
| Well: NBU 921-35J1BS RED | Spud Conductor: 6/17/2011 | Spud Date: 6/23/2011 |
| Project: UTAH-UINTAH | Site: NBU 921-35G PAD | Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3 |
| Event: COMPLETION | Start Date: 9/15/2011 | End Date: 10/28/2011 |
| Active Datum: RKB @5,144.00usft (above Mean Sea Level) | UWI: SW/NE/0/9/S/21/E/35/0/0/26/PM/N/2053/E/0/1613/0/0 | |

| Date | Time Start-End | Duration (hr) | Phase | Code | Sub Code | P/U | MD From (usft) | Operation |
|---|---|---|---|---|---|---|---|---|
| 10/26/2011 | 7:00 - 15:00 | 8.00 | COMP | 30 | | P | | 7AM [DAY 12] JSA- - WORKING IN RAINY WEATHER, POOH W/ TBG, RIH W/ TBG, DRLG EQUIP.<br><br>SHUT IN SURFACE CSG = 40#. BLEW DOWN IN 10 SECONDS. VERY SLIGHT BLOW THRU 1/2" NEEDLE VALVE. SICP=0#, SITP=0#. EOT @ 2180'. POOH STDG BACK TBG. L/D BHA.<br><br>P/U GOOD USED 3-7/8" FLOW TECH SEALED BRG BIT & RIH ON 2-3/8" L-80 TBG.<br>TAG HLBRTN CCR @ 2403'. R/U SWVL & RIG PUMP. ESTABLSH CIRCULATION W/ RIG PUMP.<br>D/O CCR IN 30 MINUTES. D/O 15' SOFT CMT TO 2420'. TOP SQZ PERF @ 2446'. CIRCULATE WELL CLN. PUH W/ EOT @ 2400'. FREEZE PROTECT WELL HEAD. DRAIN PUMP & LINES. (CMT NOT SET UP)<br><br>3PM SWI-SDFD. LEAVE SURFACE CSG WITH POP OFF ASSEMBY ON TO MONITOR PSI OVERNIGHT. COST OF 83,000.00 TO DATE FOR SQZ WORK. |
| 10/27/2011 | 7:00 - 15:00 | 8.00 | COMP | 30 | | P | | 7AM [DAY 13] JSA- -DRLG CMT, SWVLS, PSI, PINCH PTS P/U TBG.<br><br>SHUT IN SURFACE CASING W/ POP OFF=8#. BLED OFF INSTANT. SICP=0#. EOT @ 2420'. ESTABLISH CIRCULATION W/ RIG PUMP. D/O 2' HARD CMT, THEN STRINGERS TO 2446' (BTM SQZ HOLE) FELL THRU, RIH TO 2640'. FILL CSH W/ 1/4 BBL. P.T. CSG TO 1200#. LOST 10# IN 15 MINUTES. RIH, TAG CBP @ 2650'. D/O HLBRTN 8K CBP IN 7 MINUTES. CIRCULATE WELL CLN. R/D SWVL. POOH STDG BACK TBG. L/D BHA.<br><br>P/U NEW 3-7/8" FLOW TECH SEALED BRG BIT, POBS W/ XN NIPPLE & RIH ON 2-3/8" TBG. P/U, TALLY & DRIFT 4500' OF 2-3/8" L-80 NEW TBG. TAG KILL PLUG @ 7464'. R/U SWVL. SURFACE CSG PSI= 26#.<br>DRAIN PMP & LINES, FRZE PROTECT WELL HEAD.<br><br>3PM SWI-SDFN-- PREP TO D/O 8 CBP'S & LAND TBG IN AM. |

US ROCKIES REGION

# Operation Summary Report

| | | | |
|---|---|---|---|
| Well: NBU 921-35J1BS RED | Spud Conductor: 6/17/2011 | Spud Date: 6/23/2011 | |
| Project: UTAH-UINTAH | Site: NBU 921-35G PAD | | Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3 |
| Event: COMPLETION | Start Date: 9/15/2011 | | End Date: 10/28/2011 |
| Active Datum: RKB @5,144.00usft (above Mean Sea Level) | UWI: SW/NE/0/9/S/21/E/35/0/0/26/PM/N/2053/E/0/1613/0/0 | | |

| Date | Time Start-End | Duration (hr) | Phase | Code | Sub Code | P/U | MD From (usft) | Operation |
|---|---|---|---|---|---|---|---|---|
| 10/28/2011 | 7:00 - 17:00 | 10.00 | COMP | 30 | | P | | 7AM [DAY 14] JSA- - DRLG PLUGS, DRLG EQUIP, PSI, LANDING TBG.<br><br>SICP=0#. SISCP=25#. EOT @ 7460'. ESTABLISH CIRC W/ RIG PUMP.<br><br>[DRLG CBP#1] @ 7464'. D/O HLBRTN 8K CBP IN 6 MIN. 0# INC. RIH & C/O 30' SD TO CBP#2 .FCP=100#.<br><br>[DRLG CBP#2] @ 7572'. D/O HLBRTN 8K CBP IN 8 MIN. 200# INC. RIH & C/O 30' SAND TO CBP#3 FCP=200#.<br><br>[DRLG CBP#3] @ 8001'. D/O HLBRTN 8K CBP IN 4 MIN. 100# INC. RIH & C/O 30' SAND TO CBP#4 FCP=300#.<br><br>[DRLG CBP#4] @ 8182', D/O HLBRTN 8K CBP IN 5 MIN. 100# INC. RIH & C/O 30' SAND TO CBP#5 FCP=400#.<br><br>[DRLG CBP#5] @ 8511'. D/O HLBRTN 8K CBP IN 6 MIN. 400# INC. RIH & C/O 20' SAND TO CBP#6 FCP=600#.<br><br>[DRLG CBP#6] @ 8756'. D/O HLBRTN 8K CBP IN 5 MIN. 100# INC. RIH & C/O 30' SAND TO CBP#7 FCP=600#<br><br>[DRLG CBP#7] @ 9096'. D/O HLBRTN 8K CBP IN 10 MIN. 200# INC. RIH & C/O 30' SAND TO CBP#8. FCP=650#<br><br>[DRLG CBP#8] @ 9380'. D/O HLBRTN 8K CBP IN 15 MIN. 250# INC. RIH TAG SD @ 9670' C/O 110' SAND TO PBTD @ 9780'. B.P. @ 9642'. [138' RATHOLE] FCP=750#. CIRC WELL CLN. R/D SWVL. POOH & L/D 22 JTS ON FLOAT. LAND TBG ON HNGR W/ 286 JTS NEW 2-3/8" L-80 TBG. EOT @ 9099.32', POBS W/ XN @ 9097.12'. R/D FLOOR & TBG EQUIP. NDBOP, NUWH. DROP BALL DN TBG & PMP OFF THE BIT @ 2500#. OPEN WELL TO FBT ON OPEN CHOKE TO UNLOAD TBG VOLUME.<br><br>4 PM TURN WELL OVER TO APC CREW & DELSCO FBC. SICP=2300#, FTP=2100#. SELLING 1.7 MCF DAY RATE. RACK EQUIP. DRAIN PMP & LINES. LTR= 4761 BBLS.<br>RIG DOWN RIG. MOVE OVER & RIG UP ON CIGE 204. (RE-ENTER)<br><br>5PM SDF-WE<br><br>314 JTS DELIV<br>286 LANDED |

US ROCKIES REGION

## Operation Summary Report

| | | | |
|---|---|---|---|
| Well: NBU 921-35J1BS RED | Spud Conductor: 6/17/2011 | Spud Date: 6/23/2011 | |
| Project: UTAH-UINTAH | Site: NBU 921-35G PAD | | Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3 |
| Event: COMPLETION | Start Date: 9/15/2011 | | End Date: 10/28/2011 |
| Active Datum: RKB @5,144.00usft (above Mean Sea Level) | UWI: SW/NE/0/9/S/21/E/35/0/0/26/PM/N/2053/E/0/1613/0/0 | | |

| Date | Time Start-End | Duration (hr) | Phase | Code | Sub Code | P/U | MD From (usft) | Operation |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 28 RETURNED |

Scientific Drilling
Rocky Mountain Operations

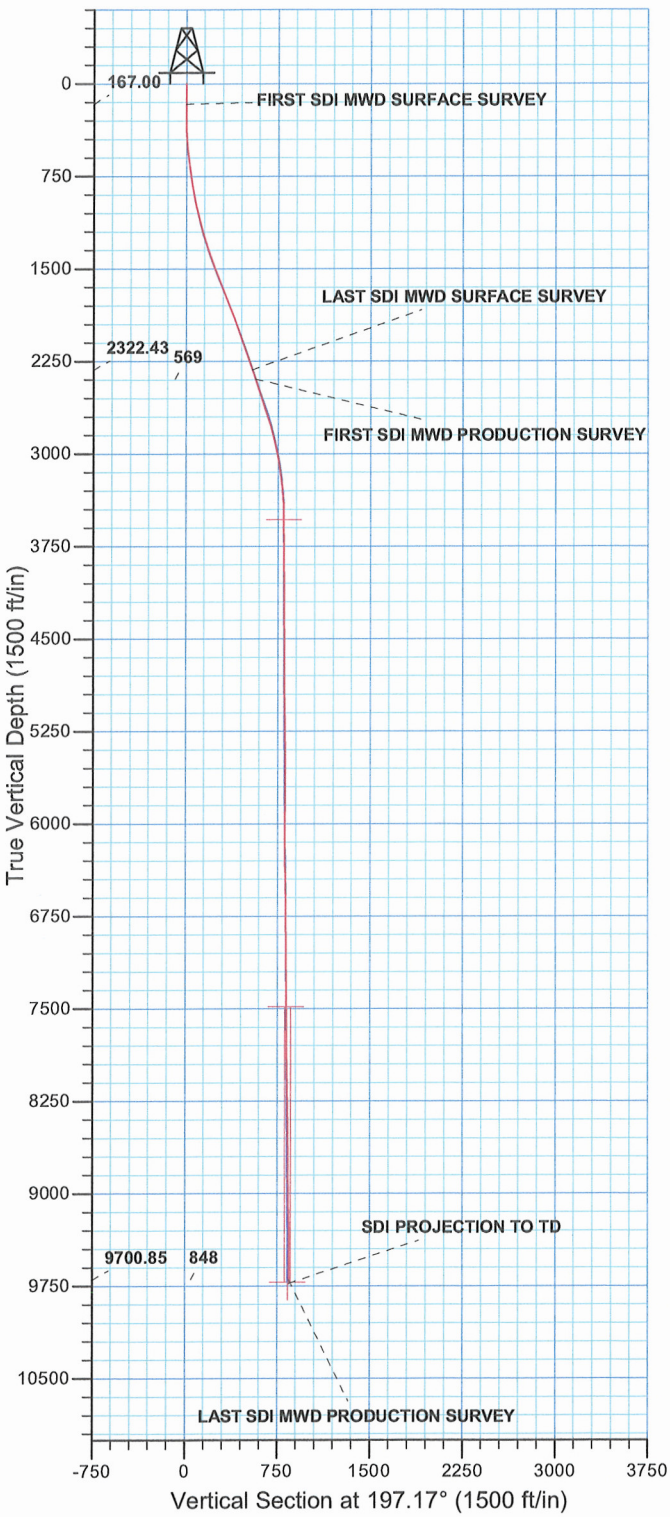
**Project:** Uintah County, UT UTM12
**Site:** NBU 921-35G Pad
**Well:** NBU 921-35J1BS
**Wellbore:** OH
**Design:** OH

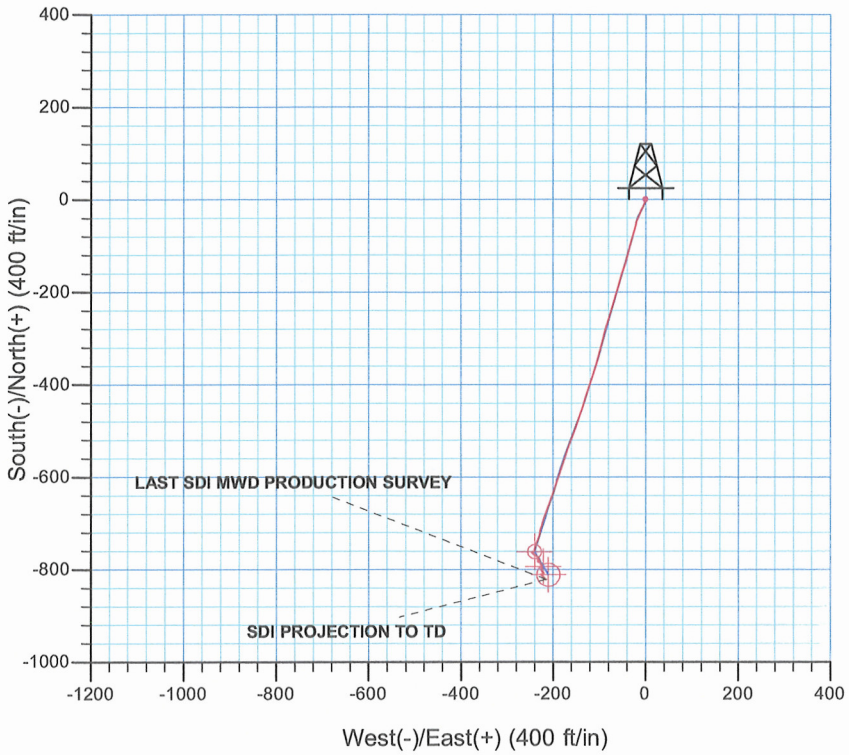
Anadarko Petroleum Corporation

| WELL DETAILS: NBU 921-35J1BS | | | | | |
|---|---|---|---|---|---|
| GL 5119' & KB 25' @ 5144.00ft (HP 311) | | | | | |
| +N/-S | +E/-W | Northing | Easting | Latitude | Longitude |
| 0.00 | 0.00 | 14527383.91 | 2056474.61 | 39° 59' 38.969 N | 109° 30' 52.358 W |


Azimuths to True North
Magnetic North: 11.07°

Magnetic Field
Strength: 52315.5snT
Dip Angle: 65.86°
Date: 07/11/2011
Model: IGRF2010




| PROJECT DETAILS: Uintah County, UT UTM12 | |
|---|---|
| Geodetic System: | Universal Transverse Mercator (US Survey Feet) |
| Datum: | NAD 1927 - Western US |
| Ellipsoid: | Clarke 1866 |
| Zone: | Zone 12N (114 W to 108 W) |
| Location: | SEC 35 T9S R21E |
| System Datum: | Mean Sea Level |

Design: OH (NBU 921-35J1BS/OH)
Created By: RobertScott Date: 15:49, July 28 2011

Scientific Drilling
Rocky Mountain Operations

# Kerr McGee Oil and Gas Onshore LP

**Uintah County, UT UTM12**
**NBU 921-35G Pad**
**NBU 921-35J1BS**

**OH**

**Design: OH**

# Standard Survey Report

**28 July, 2011**

Anadarko
Petroleum Corporation

| | | | |
|---|---|---|---|
| **Company:** | Kerr McGee Oil and Gas Onshore LP | **Local Co-ordinate Reference:** | Well NBU 921-35J1BS |
| **Project:** | Uintah County, UT UTM12 | **TVD Reference:** | GL 5119' & KB 25' @ 5144.00ft (HP 311) |
| **Site:** | NBU 921-35G Pad | **MD Reference:** | GL 5119' & KB 25' @ 5144.00ft (HP 311) |
| **Well:** | NBU 921-35J1BS | **North Reference:** | True |
| **Wellbore:** | OH | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | OH | **Database:** | EDM5000-RobertS-Local |

| | | | |
|---|---|---|---|
| **Project** | Uintah County, UT UTM12 | | |
| **Map System:** | Universal Transverse Mercator (US Survey Feet) | **System Datum:** | Mean Sea Level |
| **Geo Datum:** | NAD 1927 - Western US | | |
| **Map Zone:** | Zone 12N (114 W to 108 W) | | |

| | | | | | |
|---|---|---|---|---|---|
| **Site** | NBU 921-35G Pad, SEC 35 T9S R21E | | | | |
| **Site Position:** | | **Northing:** | 14,527,383.91 usft | **Latitude:** | 39° 59' 38.969 N |
| **From:** | Lat/Long | **Easting:** | 2,056,474.61 usft | **Longitude:** | 109° 30' 52.358 W |
| **Position Uncertainty:** | 0.00 ft | **Slot Radius:** | 13.200 in | **Grid Convergence:** | 0.95 ° |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Well** | NBU 921-35J1BS, 2053' FNL 1613' FEL | | | | | |
| **Well Position** | **+N/-S** | 0.00 ft | **Northing:** | 14,527,383.91 usft | **Latitude:** | 39° 59' 38.969 N |
| | **+E/-W** | 0.00 ft | **Easting:** | 2,056,474.61 usft | **Longitude:** | 109° 30' 52.358 W |
| **Position Uncertainty** | | 0.00 ft | **Wellhead Elevation:** | ft | **Ground Level:** | 5,119.00 ft |

| | | | | | |
|---|---|---|---|---|---|
| **Wellbore** | OH | | | | |
| **Magnetics** | **Model Name** | **Sample Date** | **Declination (°)** | **Dip Angle (°)** | **Field Strength (nT)** |
| | IGRF2010 | 07/11/11 | 11.07 | 65.86 | 52,315 |

| | | | | | |
|---|---|---|---|---|---|
| **Design** | OH | | | | |
| **Audit Notes:** | | | | | |
| **Version:** | 1.0 | **Phase:** | ACTUAL | **Tie On Depth:** | 0.00 |
| **Vertical Section:** | **Depth From (TVD) (ft)** | **+N/-S (ft)** | **+E/-W (ft)** | **Direction (°)** | |
| | 0.00 | 0.00 | 0.00 | 197.17 | |

**Survey Program** **Date** 07/28/11

| From (ft) | To (ft) | Survey (Wellbore) | Tool Name | Description |
|---|---|---|---|---|
| 167.00 | 2,407.00 | Survey #1 SDI MWD SURFACE (OH) | MWD SDI | MWD - Standard ver 1.0.1 |
| 2,486.00 | 9,850.00 | Survey #2 SDI MWD PRODUCTION (OH) | MWD SDI | MWD - Standard ver 1.0.1 |

**Survey**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 167.00 | 0.44 | 192.57 | 167.00 | -0.63 | -0.14 | 0.64 | 0.26 | 0.26 | 0.00 |
| **FIRST SDI MWD SURFACE SURVEY** | | | | | | | | | |
| 254.00 | 0.62 | 166.82 | 253.99 | -1.41 | -0.10 | 1.38 | 0.34 | 0.21 | -29.60 |
| 338.00 | 1.58 | 196.53 | 337.98 | -2.96 | -0.33 | 2.93 | 1.29 | 1.14 | 35.37 |
| 427.00 | 3.08 | 195.04 | 426.90 | -6.45 | -1.30 | 6.55 | 1.69 | 1.69 | -1.67 |
| 517.00 | 4.66 | 206.95 | 516.70 | -12.04 | -3.58 | 12.56 | 1.96 | 1.76 | 13.23 |
| 607.00 | 6.08 | 207.64 | 606.30 | -19.52 | -7.45 | 20.85 | 1.58 | 1.58 | 0.77 |
| 697.00 | 7.42 | 202.81 | 695.67 | -29.10 | -11.92 | 31.33 | 1.62 | 1.49 | -5.37 |
| 787.00 | 9.14 | 201.29 | 784.73 | -41.12 | -16.77 | 44.24 | 1.93 | 1.91 | -1.69 |

| | | | |
|---|---|---|---|
| **Company:** | Kerr McGee Oil and Gas Onshore LP | **Local Co-ordinate Reference:** | Well NBU 921-35J1BS |
| **Project:** | Uintah County, UT UTM12 | **TVD Reference:** | GL 5119' & KB 25' @ 5144.00ft (HP 311) |
| **Site:** | NBU 921-35G Pad | **MD Reference:** | GL 5119' & KB 25' @ 5144.00ft (HP 311) |
| **Well:** | NBU 921-35J1BS | **North Reference:** | True |
| **Wellbore:** | OH | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | OH | **Database:** | EDM5000-RobertS-Local |

**Survey**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
|---|---|---|---|---|---|---|---|---|---|
| 877.00 | 10.41 | 194.99 | 873.43 | -55.64 | -21.47 | 59.50 | 1.84 | 1.41 | -7.00 |
| 967.00 | 12.07 | 194.74 | 961.70 | -72.59 | -25.96 | 77.02 | 1.85 | 1.84 | -0.28 |
| 1,057.00 | 13.37 | 195.97 | 1,049.49 | -91.70 | -31.22 | 96.83 | 1.48 | 1.44 | 1.37 |
| 1,147.00 | 15.23 | 196.09 | 1,136.69 | -113.06 | -37.36 | 119.05 | 2.07 | 2.07 | 0.13 |
| 1,237.00 | 16.70 | 195.33 | 1,223.22 | -136.89 | -44.06 | 143.80 | 1.65 | 1.63 | -0.84 |
| 1,327.00 | 17.73 | 195.34 | 1,309.19 | -162.58 | -51.10 | 170.42 | 1.14 | 1.14 | 0.01 |
| 1,417.00 | 19.07 | 196.23 | 1,394.58 | -189.91 | -58.83 | 198.82 | 1.52 | 1.49 | 0.99 |
| 1,507.00 | 20.46 | 197.49 | 1,479.28 | -219.04 | -67.67 | 229.25 | 1.62 | 1.54 | 1.40 |
| 1,597.00 | 20.72 | 195.91 | 1,563.53 | -249.35 | -76.76 | 260.90 | 0.68 | 0.29 | -1.76 |
| 1,687.00 | 21.73 | 195.72 | 1,647.43 | -280.70 | -85.64 | 293.47 | 1.12 | 1.12 | -0.21 |
| 1,777.00 | 21.61 | 194.17 | 1,731.07 | -312.81 | -94.21 | 326.68 | 0.65 | -0.13 | -1.72 |
| 1,867.00 | 20.15 | 195.74 | 1,815.15 | -343.80 | -102.48 | 358.73 | 1.74 | -1.62 | 1.74 |
| 1,957.00 | 19.94 | 198.28 | 1,899.70 | -373.29 | -111.49 | 389.57 | 1.00 | -0.23 | 2.82 |
| 2,047.00 | 20.81 | 198.67 | 1,984.07 | -403.01 | -121.43 | 420.89 | 0.98 | 0.97 | 0.43 |
| 2,137.00 | 21.11 | 196.56 | 2,068.12 | -433.69 | -131.16 | 453.08 | 0.90 | 0.33 | -2.34 |
| 2,227.00 | 19.29 | 198.51 | 2,152.58 | -463.32 | -140.50 | 484.15 | 2.16 | -2.02 | 2.17 |
| 2,317.00 | 19.36 | 199.79 | 2,237.51 | -491.46 | -150.27 | 513.92 | 0.48 | 0.08 | 1.42 |
| 2,407.00 | 19.31 | 200.33 | 2,322.43 | -519.45 | -160.49 | 543.68 | 0.21 | -0.06 | 0.60 |
| **LAST SDI MWD SURFACE SURVEY** | | | | | | | | | |
| 2,486.00 | 18.64 | 199.42 | 2,397.14 | -543.60 | -169.23 | 569.33 | 0.93 | -0.85 | -1.15 |
| **FIRST SDI MWD PRODUCTION SURVEY** | | | | | | | | | |
| 2,581.00 | 18.86 | 196.53 | 2,487.10 | -572.64 | -178.65 | 599.86 | 1.00 | 0.23 | -3.04 |
| 2,675.00 | 17.41 | 199.60 | 2,576.43 | -600.46 | -187.69 | 629.10 | 1.85 | -1.54 | 3.27 |
| 2,769.00 | 17.68 | 198.29 | 2,666.06 | -627.26 | -196.88 | 657.42 | 0.51 | 0.29 | -1.39 |
| 2,864.00 | 17.85 | 201.97 | 2,756.53 | -654.46 | -206.86 | 686.36 | 1.20 | 0.18 | 3.87 |
| 2,958.00 | 13.54 | 198.89 | 2,847.01 | -678.24 | -215.82 | 711.73 | 4.67 | -4.59 | -3.28 |
| 3,053.00 | 12.75 | 195.82 | 2,939.52 | -698.85 | -222.27 | 733.32 | 1.11 | -0.83 | -3.23 |
| 3,147.00 | 10.38 | 194.15 | 3,031.60 | -717.04 | -227.17 | 752.15 | 2.55 | -2.52 | -1.78 |
| 3,242.00 | 8.71 | 198.01 | 3,125.29 | -732.18 | -231.49 | 767.89 | 1.88 | -1.76 | 4.06 |
| 3,336.00 | 6.33 | 204.08 | 3,218.47 | -743.69 | -235.81 | 780.15 | 2.67 | -2.53 | 6.46 |
| 3,430.00 | 4.48 | 189.05 | 3,312.05 | -752.04 | -238.50 | 788.93 | 2.46 | -1.97 | -15.99 |
| 3,524.00 | 2.37 | 185.62 | 3,405.88 | -757.60 | -239.27 | 794.47 | 2.25 | -2.24 | -3.65 |
| 3,619.00 | 0.97 | 187.12 | 3,500.84 | -760.36 | -239.56 | 797.19 | 1.47 | -1.47 | 1.58 |
| 3,713.00 | 1.06 | 290.30 | 3,594.83 | -760.84 | -240.47 | 797.93 | 1.69 | 0.10 | 109.77 |
| 3,807.00 | 0.97 | 267.62 | 3,688.82 | -760.58 | -242.08 | 798.14 | 0.43 | -0.10 | -24.13 |
| 3,901.00 | 0.79 | 230.01 | 3,782.80 | -761.03 | -243.37 | 798.95 | 0.63 | -0.19 | -40.01 |
| 3,996.00 | 1.41 | 208.47 | 3,877.79 | -762.47 | -244.43 | 800.65 | 0.77 | 0.65 | -22.67 |
| 4,090.00 | 0.45 | 100.54 | 3,971.78 | -763.56 | -244.62 | 801.74 | 1.71 | -1.02 | -114.82 |
| 4,184.00 | 0.88 | 117.42 | 4,065.77 | -763.96 | -243.62 | 801.83 | 0.50 | 0.46 | 17.96 |
| 4,279.00 | 0.75 | 131.95 | 4,160.76 | -764.71 | -242.51 | 802.22 | 0.26 | -0.14 | 15.29 |
| 4,373.00 | 0.09 | 228.95 | 4,254.76 | -765.17 | -242.11 | 802.54 | 0.82 | -0.70 | 103.19 |
| 4,467.00 | 0.53 | 183.42 | 4,348.76 | -765.65 | -242.19 | 803.02 | 0.50 | 0.47 | -48.44 |
| 4,562.00 | 0.79 | 168.83 | 4,443.75 | -766.73 | -242.09 | 804.03 | 0.32 | 0.27 | -15.36 |

| | | | |
|---|---|---|---|
| **Company:** | Kerr McGee Oil and Gas Onshore LP | **Local Co-ordinate Reference:** | Well NBU 921-35J1BS |
| **Project:** | Uintah County, UT UTM12 | **TVD Reference:** | GL 5119' & KB 25' @ 5144.00ft (HP 311) |
| **Site:** | NBU 921-35G Pad | **MD Reference:** | GL 5119' & KB 25' @ 5144.00ft (HP 311) |
| **Well:** | NBU 921-35J1BS | **North Reference:** | True |
| **Wellbore:** | OH | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | OH | **Database:** | EDM5000-RobertS-Local |

**Survey**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
|---|---|---|---|---|---|---|---|---|---|
| 4,656.00 | 1.32 | 87.10 | 4,537.74 | -767.31 | -240.88 | 804.23 | 1.53 | 0.56 | -86.95 |
| 4,750.00 | 1.41 | 126.91 | 4,631.71 | -767.95 | -238.87 | 804.25 | 0.99 | 0.10 | 42.35 |
| 4,845.00 | 1.32 | 122.78 | 4,726.69 | -769.25 | -237.02 | 804.94 | 0.14 | -0.09 | -4.35 |
| 4,939.00 | 1.76 | 139.39 | 4,820.65 | -770.93 | -235.17 | 806.00 | 0.66 | 0.47 | 17.67 |
| 5,033.00 | 1.93 | 135.00 | 4,914.61 | -773.15 | -233.11 | 807.50 | 0.24 | 0.18 | -4.67 |
| 5,128.00 | 0.88 | 209.79 | 5,009.58 | -774.91 | -232.34 | 808.96 | 2.00 | -1.11 | 78.73 |
| 5,222.00 | 1.14 | 177.18 | 5,103.57 | -776.47 | -232.65 | 810.55 | 0.66 | 0.28 | -34.69 |
| 5,316.00 | 1.14 | 172.88 | 5,197.55 | -778.33 | -232.49 | 812.28 | 0.09 | 0.00 | -4.57 |
| 5,411.00 | 1.06 | 185.62 | 5,292.53 | -780.14 | -232.46 | 814.00 | 0.27 | -0.08 | 13.41 |
| 5,505.00 | 1.41 | 182.46 | 5,386.51 | -782.17 | -232.60 | 815.97 | 0.38 | 0.37 | -3.36 |
| 5,599.00 | 0.53 | 103.97 | 5,480.50 | -783.43 | -232.22 | 817.06 | 1.49 | -0.94 | -83.50 |
| 5,694.00 | 1.11 | 21.13 | 5,575.49 | -782.67 | -231.46 | 816.12 | 1.23 | 0.61 | -87.20 |
| 5,788.00 | 0.62 | 19.86 | 5,669.48 | -781.35 | -230.96 | 814.71 | 0.52 | -0.52 | -1.35 |
| 5,882.00 | 0.44 | 353.40 | 5,763.48 | -780.51 | -230.83 | 813.87 | 0.32 | -0.19 | -28.15 |
| 5,977.00 | 0.45 | 358.47 | 5,858.47 | -779.77 | -230.88 | 813.18 | 0.04 | 0.01 | 5.34 |
| 6,071.00 | 0.35 | 327.30 | 5,952.47 | -779.16 | -231.05 | 812.65 | 0.25 | -0.11 | -33.16 |
| 6,165.00 | 0.44 | 349.71 | 6,046.47 | -778.57 | -231.27 | 812.14 | 0.19 | 0.10 | 23.84 |
| 6,260.00 | 1.32 | 133.85 | 6,141.46 | -778.97 | -230.55 | 812.31 | 1.79 | 0.93 | 151.73 |
| 6,354.00 | 0.97 | 138.58 | 6,235.44 | -780.31 | -229.24 | 813.21 | 0.39 | -0.37 | 5.03 |
| 6,449.00 | 1.23 | 163.47 | 6,330.43 | -781.89 | -228.42 | 814.48 | 0.57 | 0.27 | 26.20 |
| 6,543.00 | 1.06 | 155.65 | 6,424.41 | -783.65 | -227.77 | 815.97 | 0.25 | -0.18 | -8.32 |
| 6,638.00 | 1.32 | 163.30 | 6,519.39 | -785.50 | -227.09 | 817.53 | 0.32 | 0.27 | 8.05 |
| 6,732.00 | 0.44 | 172.61 | 6,613.37 | -786.90 | -226.74 | 818.76 | 0.95 | -0.94 | 9.90 |
| 6,826.00 | 0.97 | 140.27 | 6,707.37 | -787.87 | -226.18 | 819.52 | 0.68 | 0.56 | -34.40 |
| 6,920.00 | 1.06 | 173.67 | 6,801.35 | -789.34 | -225.58 | 820.76 | 0.63 | 0.10 | 35.53 |
| 7,015.00 | 0.18 | 192.74 | 6,896.35 | -790.36 | -225.51 | 821.71 | 0.94 | -0.93 | 20.07 |
| 7,109.00 | 0.35 | 137.72 | 6,990.35 | -790.72 | -225.35 | 822.00 | 0.31 | 0.18 | -58.53 |
| 7,203.00 | 0.53 | 126.12 | 7,084.34 | -791.19 | -224.81 | 822.29 | 0.21 | 0.19 | -12.34 |
| 7,297.00 | 0.53 | 151.52 | 7,178.34 | -791.82 | -224.25 | 822.74 | 0.25 | 0.00 | 27.02 |
| 7,392.00 | 0.70 | 144.05 | 7,273.33 | -792.68 | -223.70 | 823.39 | 0.20 | 0.18 | -7.86 |
| 7,486.00 | 0.62 | 180.70 | 7,367.33 | -793.65 | -223.37 | 824.22 | 0.45 | -0.09 | 38.99 |
| 7,581.00 | 0.44 | 130.16 | 7,462.32 | -794.40 | -223.10 | 824.86 | 0.51 | -0.19 | -53.20 |
| 7,675.00 | 0.53 | 186.24 | 7,556.32 | -795.07 | -222.87 | 825.43 | 0.49 | 0.10 | 59.66 |
| 7,769.00 | 0.44 | 186.06 | 7,650.32 | -795.86 | -222.95 | 826.21 | 0.10 | -0.10 | -0.19 |
| 7,864.00 | 0.97 | 218.40 | 7,745.31 | -796.85 | -223.49 | 827.31 | 0.68 | 0.56 | 34.04 |
| 7,958.00 | 0.97 | 220.87 | 7,839.30 | -798.08 | -224.51 | 828.78 | 0.04 | 0.00 | 2.63 |
| 8,052.00 | 0.79 | 191.69 | 7,933.29 | -799.31 | -225.16 | 830.16 | 0.51 | -0.19 | -31.04 |
| 8,147.00 | 0.88 | 142.82 | 8,028.28 | -800.54 | -224.85 | 831.24 | 0.73 | 0.09 | -51.44 |
| 8,241.00 | 1.14 | 149.32 | 8,122.26 | -801.92 | -223.94 | 832.28 | 0.30 | 0.28 | 6.91 |
| 8,335.00 | 0.97 | 139.83 | 8,216.25 | -803.33 | -222.95 | 833.34 | 0.26 | -0.18 | -10.10 |
| 8,430.00 | 1.14 | 145.46 | 8,311.23 | -804.72 | -221.89 | 834.36 | 0.21 | 0.18 | 5.93 |
| 8,524.00 | 1.58 | 135.52 | 8,405.20 | -806.42 | -220.45 | 835.55 | 0.53 | 0.47 | -10.57 |
| 8,618.00 | 0.53 | 221.57 | 8,499.19 | -807.67 | -219.83 | 836.57 | 1.74 | -1.12 | 91.54 |
| 8,712.00 | 0.77 | 183.23 | 8,593.18 | -808.62 | -220.16 | 837.58 | 0.51 | 0.26 | -40.79 |

| | | | |
|---|---|---|---|
| **Company:** | Kerr McGee Oil and Gas Onshore LP | **Local Co-ordinate Reference:** | Well NBU 921-35J1BS |
| **Project:** | Uintah County, UT UTM12 | **TVD Reference:** | GL 5119' & KB 25' @ 5144.00ft (HP 311) |
| **Site:** | NBU 921-35G Pad | **MD Reference:** | GL 5119' & KB 25' @ 5144.00ft (HP 311) |
| **Well:** | NBU 921-35J1BS | **North Reference:** | True |
| **Wellbore:** | OH | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | OH | **Database:** | EDM5000-RobertS-Local |

**Survey**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
|---|---|---|---|---|---|---|---|---|---|
| 8,807.00 | 1.85 | 266.31 | 8,688.16 | -809.36 | -221.72 | 838.74 | 2.02 | 1.14 | 87.45 |
| 8,901.00 | 1.32 | 243.37 | 8,782.13 | -809.94 | -224.21 | 840.03 | 0.87 | -0.56 | -24.40 |
| 8,995.00 | 1.23 | 238.36 | 8,876.11 | -810.95 | -226.03 | 841.54 | 0.15 | -0.10 | -5.33 |
| 9,820.00 | 2.60 | 106.30 | 9,700.85 | -820.85 | -215.61 | 847.92 | 0.43 | 0.17 | -16.01 |
| **LAST SDI MWD PRODUCTION SURVEY** | | | | | | | | | |
| 9,850.00 | 2.60 | 106.30 | 9,730.82 | -821.24 | -214.30 | 847.90 | 0.00 | 0.00 | 0.00 |
| **SDI PROJECTION TO TD** | | | | | | | | | |

**Design Annotations**

| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates +N/-S (ft) | Local Coordinates +E/-W (ft) | Comment |
|---|---|---|---|---|
| 167.00 | 167.00 | -0.63 | -0.14 | FIRST SDI MWD SURFACE SURVEY |
| 2,407.00 | 2,322.43 | -519.45 | -160.49 | LAST SDI MWD SURFACE SURVEY |
| 2,486.00 | 2,397.14 | -543.60 | -169.23 | FIRST SDI MWD PRODUCTION SURVEY |
| 9,820.00 | 9,700.85 | -820.85 | -215.61 | LAST SDI MWD PRODUCTION SURVEY |
| 9,850.00 | 9,730.82 | -821.24 | -214.30 | SDI PROJECTION TO TD |

Checked By: _____ Approved By: _____ Date: _____

Scientific Drilling
Rocky Mountain Operations

# Kerr McGee Oil and Gas Onshore LP

**Uintah County, UT UTM12**
**NBU 921-35G Pad**
**NBU 921-35J1BS**

**OH**

**Design: OH**

# Survey Report - Geographic

**28 July, 2011**

Anadarko
Petroleum Corporation

RECEIVED
DEC 0 5 2011
DIV. OF OIL, GAS & MINING

| | | | |
|---|---|---|---|
| **Company:** | Kerr McGee Oil and Gas Onshore LP | **Local Co-ordinate Reference:** | Well NBU 921-35J1BS |
| **Project:** | Uintah County, UT UTM12 | **TVD Reference:** | GL 5119' & KB 25' @ 5144.00ft (HP 311) |
| **Site:** | NBU 921-35G Pad | **MD Reference:** | GL 5119' & KB 25' @ 5144.00ft (HP 311) |
| **Well:** | NBU 921-35J1BS | **North Reference:** | True |
| **Wellbore:** | OH | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | OH | **Database:** | EDM5000-RobertS-Local |

| | | | |
|---|---|---|---|
| **Project** | Uintah County, UT UTM12 | | |
| **Map System:** | Universal Transverse Mercator (US Survey Feet) | **System Datum:** | Mean Sea Level |
| **Geo Datum:** | NAD 1927 - Western US | | |
| **Map Zone:** | Zone 12N (114 W to 108 W) | | |

| | | | | | |
|---|---|---|---|---|---|
| **Site** | NBU 921-35G Pad, SEC 35 T9S R21E | | | | |
| **Site Position:** | | **Northing:** | 14,527,383.91 usft | **Latitude:** | 39° 59' 38.969 N |
| **From:** | Lat/Long | **Easting:** | 2,056,474.61 usft | **Longitude:** | 109° 30' 52.358 W |
| **Position Uncertainty:** | 0.00 ft | **Slot Radius:** | 13.200 in | **Grid Convergence:** | 0.95 ° |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Well** | NBU 921-35J1BS, 2053' FNL 1613' FEL | | | | | |
| **Well Position** | **+N/-S** | 0.00 ft | **Northing:** | 14,527,383.91 usft | **Latitude:** | 39° 59' 38.969 N |
| | **+E/-W** | 0.00 ft | **Easting:** | 2,056,474.61 usft | **Longitude:** | 109° 30' 52.358 W |
| **Position Uncertainty** | | 0.00 ft | **Wellhead Elevation:** | ft | **Ground Level:** | 5,119.00 ft |

| | | | | | |
|---|---|---|---|---|---|
| **Wellbore** | OH | | | | |
| **Magnetics** | **Model Name** | **Sample Date** | **Declination (°)** | **Dip Angle (°)** | **Field Strength (nT)** |
| | IGRF2010 | 07/11/11 | 11.07 | 65.86 | 52,315 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Design** | OH | | | | | |
| **Audit Notes:** | | | | | | |
| **Version:** | 1.0 | **Phase:** | ACTUAL | **Tie On Depth:** | | 0.00 |
| **Vertical Section:** | **Depth From (TVD) (ft)** | **+N/-S (ft)** | **+E/-W (ft)** | **Direction (°)** | | |
| | 0.00 | 0.00 | 0.00 | 197.17 | | |

**Survey Program** **Date** 07/28/11

| From (ft) | To (ft) | Survey (Wellbore) | Tool Name | Description |
|---|---|---|---|---|
| 167.00 | 2,407.00 | Survey #1 SDI MWD SURFACE (OH) | MWD SDI | MWD - Standard ver 1.0.1 |
| 2,486.00 | 9,850.00 | Survey #2 SDI MWD PRODUCTION (OH) | MWD SDI | MWD - Standard ver 1.0.1 |

**Survey**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Map Northing (usft) | Map Easting (usft) | Latitude | Longitude |
|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 14,527,383.91 | 2,056,474.61 | 39° 59' 38.969 N | 109° 30' 52.358 W |
| 167.00 | 0.44 | 192.57 | 167.00 | -0.63 | -0.14 | 14,527,383.28 | 2,056,474.48 | 39° 59' 38.963 N | 109° 30' 52.360 W |
| **FIRST SDI MWD SURFACE SURVEY** | | | | | | | | | |
| 254.00 | 0.62 | 166.82 | 253.99 | -1.41 | -0.10 | 14,527,382.50 | 2,056,474.53 | 39° 59' 38.955 N | 109° 30' 52.360 W |
| 338.00 | 1.58 | 196.53 | 337.98 | -2.96 | -0.33 | 14,527,380.94 | 2,056,474.33 | 39° 59' 38.940 N | 109° 30' 52.363 W |
| 427.00 | 3.08 | 195.04 | 426.90 | -6.45 | -1.30 | 14,527,377.44 | 2,056,473.41 | 39° 59' 38.905 N | 109° 30' 52.375 W |
| 517.00 | 4.66 | 206.95 | 516.70 | -12.04 | -3.58 | 14,527,371.81 | 2,056,471.22 | 39° 59' 38.850 N | 109° 30' 52.404 W |
| 607.00 | 6.08 | 207.64 | 606.30 | -19.52 | -7.45 | 14,527,364.27 | 2,056,467.48 | 39° 59' 38.776 N | 109° 30' 52.454 W |
| 697.00 | 7.42 | 202.81 | 695.67 | -29.10 | -11.92 | 14,527,354.61 | 2,056,463.18 | 39° 59' 38.681 N | 109° 30' 52.512 W |
| 787.00 | 9.14 | 201.29 | 784.73 | -41.12 | -16.77 | 14,527,342.52 | 2,056,458.53 | 39° 59' 38.562 N | 109° 30' 52.574 W |
| 877.00 | 10.41 | 194.99 | 873.43 | -55.64 | -21.47 | 14,527,327.92 | 2,056,454.07 | 39° 59' 38.419 N | 109° 30' 52.634 W |

| | | | |
|---|---|---|---|
| **Company:** | Kerr McGee Oil and Gas Onshore LP | **Local Co-ordinate Reference:** | Well NBU 921-35J1BS |
| **Project:** | Uintah County, UT UTM12 | **TVD Reference:** | GL 5119' & KB 25' @ 5144.00ft (HP 311) |
| **Site:** | NBU 921-35G Pad | **MD Reference:** | GL 5119' & KB 25' @ 5144.00ft (HP 311) |
| **Well:** | NBU 921-35J1BS | **North Reference:** | True |
| **Wellbore:** | OH | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | OH | **Database:** | EDM5000-RobertS-Local |

**Survey**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Map Northing (usft) | Map Easting (usft) | Latitude | Longitude |
|---|---|---|---|---|---|---|---|---|---|
| 967.00 | 12.07 | 194.74 | 961.70 | -72.59 | -25.96 | 14,527,310.89 | 2,056,449.86 | 39° 59' 38.251 N | 109° 30' 52.692 W |
| 1,057.00 | 13.37 | 195.97 | 1,049.49 | -91.70 | -31.22 | 14,527,291.70 | 2,056,444.92 | 39° 59' 38.062 N | 109° 30' 52.760 W |
| 1,147.00 | 15.23 | 196.09 | 1,136.69 | -113.06 | -37.36 | 14,527,270.24 | 2,056,439.14 | 39° 59' 37.851 N | 109° 30' 52.838 W |
| 1,237.00 | 16.70 | 195.33 | 1,223.22 | -136.89 | -44.06 | 14,527,246.30 | 2,056,432.84 | 39° 59' 37.616 N | 109° 30' 52.925 W |
| 1,327.00 | 17.73 | 195.34 | 1,309.19 | -162.58 | -51.10 | 14,527,220.50 | 2,056,426.22 | 39° 59' 37.362 N | 109° 30' 53.015 W |
| 1,417.00 | 19.07 | 196.23 | 1,394.58 | -189.91 | -58.83 | 14,527,193.04 | 2,056,418.95 | 39° 59' 37.092 N | 109° 30' 53.114 W |
| 1,507.00 | 20.46 | 197.49 | 1,479.28 | -219.04 | -67.67 | 14,527,163.78 | 2,056,410.60 | 39° 59' 36.804 N | 109° 30' 53.228 W |
| 1,597.00 | 20.72 | 195.91 | 1,563.53 | -249.35 | -76.76 | 14,527,133.32 | 2,056,402.01 | 39° 59' 36.504 N | 109° 30' 53.345 W |
| 1,687.00 | 21.73 | 195.72 | 1,647.43 | -280.70 | -85.64 | 14,527,101.82 | 2,056,393.66 | 39° 59' 36.194 N | 109° 30' 53.459 W |
| 1,777.00 | 21.61 | 194.17 | 1,731.07 | -312.81 | -94.21 | 14,527,069.58 | 2,056,385.62 | 39° 59' 35.877 N | 109° 30' 53.569 W |
| 1,867.00 | 20.15 | 195.74 | 1,815.15 | -343.80 | -102.48 | 14,527,038.46 | 2,056,377.88 | 39° 59' 35.571 N | 109° 30' 53.675 W |
| 1,957.00 | 19.94 | 198.28 | 1,899.70 | -373.29 | -111.49 | 14,527,008.82 | 2,056,369.35 | 39° 59' 35.279 N | 109° 30' 53.791 W |
| 2,047.00 | 20.81 | 198.67 | 1,984.07 | -403.01 | -121.43 | 14,526,978.94 | 2,056,359.91 | 39° 59' 34.985 N | 109° 30' 53.919 W |
| 2,137.00 | 21.11 | 196.56 | 2,068.12 | -433.69 | -131.16 | 14,526,948.10 | 2,056,350.69 | 39° 59' 34.682 N | 109° 30' 54.044 W |
| 2,227.00 | 19.29 | 198.51 | 2,152.58 | -463.32 | -140.50 | 14,526,918.31 | 2,056,341.85 | 39° 59' 34.389 N | 109° 30' 54.164 W |
| 2,317.00 | 19.36 | 199.79 | 2,237.51 | -491.46 | -150.27 | 14,526,890.02 | 2,056,332.55 | 39° 59' 34.111 N | 109° 30' 54.289 W |
| 2,407.00 | 19.31 | 200.33 | 2,322.43 | -519.45 | -160.49 | 14,526,861.86 | 2,056,322.79 | 39° 59' 33.834 N | 109° 30' 54.421 W |
| **LAST SDI MWD SURFACE SURVEY** | | | | | | | | | |
| 2,486.00 | 18.64 | 199.42 | 2,397.14 | -543.60 | -169.23 | 14,526,837.56 | 2,056,314.46 | 39° 59' 33.596 N | 109° 30' 54.533 W |
| **FIRST SDI MWD PRODUCTION SURVEY** | | | | | | | | | |
| 2,581.00 | 18.86 | 196.53 | 2,487.10 | -572.64 | -178.65 | 14,526,808.37 | 2,056,305.53 | 39° 59' 33.309 N | 109° 30' 54.654 W |
| 2,675.00 | 17.41 | 199.60 | 2,576.43 | -600.46 | -187.69 | 14,526,780.41 | 2,056,296.95 | 39° 59' 33.034 N | 109° 30' 54.770 W |
| 2,769.00 | 17.68 | 198.29 | 2,666.06 | -627.26 | -196.88 | 14,526,753.46 | 2,056,288.20 | 39° 59' 32.769 N | 109° 30' 54.888 W |
| 2,864.00 | 17.85 | 201.97 | 2,756.53 | -654.46 | -206.86 | 14,526,726.10 | 2,056,278.68 | 39° 59' 32.500 N | 109° 30' 55.017 W |
| 2,958.00 | 13.54 | 198.89 | 2,847.01 | -678.24 | -215.82 | 14,526,702.17 | 2,056,270.13 | 39° 59' 32.265 N | 109° 30' 55.132 W |
| 3,053.00 | 12.75 | 195.82 | 2,939.52 | -698.85 | -222.27 | 14,526,681.46 | 2,056,264.01 | 39° 59' 32.061 N | 109° 30' 55.215 W |
| 3,147.00 | 10.38 | 194.15 | 3,031.60 | -717.04 | -227.17 | 14,526,663.18 | 2,056,259.42 | 39° 59' 31.881 N | 109° 30' 55.278 W |
| 3,242.00 | 8.71 | 198.01 | 3,125.29 | -732.18 | -231.49 | 14,526,647.97 | 2,056,255.35 | 39° 59' 31.732 N | 109° 30' 55.333 W |
| 3,336.00 | 6.33 | 204.08 | 3,218.47 | -743.69 | -235.81 | 14,526,636.40 | 2,056,251.23 | 39° 59' 31.618 N | 109° 30' 55.389 W |
| 3,430.00 | 4.48 | 189.05 | 3,312.05 | -752.04 | -238.50 | 14,526,628.00 | 2,056,248.68 | 39° 59' 31.535 N | 109° 30' 55.423 W |
| 3,524.00 | 2.37 | 185.62 | 3,405.88 | -757.60 | -239.27 | 14,526,622.43 | 2,056,248.00 | 39° 59' 31.480 N | 109° 30' 55.433 W |
| 3,619.00 | 0.97 | 187.12 | 3,500.84 | -760.36 | -239.56 | 14,526,619.67 | 2,056,247.76 | 39° 59' 31.453 N | 109° 30' 55.437 W |
| 3,713.00 | 1.06 | 290.30 | 3,594.83 | -760.84 | -240.47 | 14,526,619.17 | 2,056,246.85 | 39° 59' 31.448 N | 109° 30' 55.449 W |
| 3,807.00 | 0.97 | 267.62 | 3,688.82 | -760.58 | -242.08 | 14,526,619.41 | 2,056,245.24 | 39° 59' 31.451 N | 109° 30' 55.469 W |
| 3,901.00 | 0.79 | 230.01 | 3,782.80 | -761.03 | -243.37 | 14,526,618.94 | 2,056,243.95 | 39° 59' 31.446 N | 109° 30' 55.486 W |
| 3,996.00 | 1.41 | 208.47 | 3,877.79 | -762.47 | -244.43 | 14,526,617.47 | 2,056,242.92 | 39° 59' 31.432 N | 109° 30' 55.499 W |
| 4,090.00 | 0.45 | 100.54 | 3,971.78 | -763.56 | -244.62 | 14,526,616.38 | 2,056,242.75 | 39° 59' 31.421 N | 109° 30' 55.502 W |
| 4,184.00 | 0.88 | 117.42 | 4,065.77 | -763.96 | -243.62 | 14,526,616.00 | 2,056,243.76 | 39° 59' 31.417 N | 109° 30' 55.489 W |
| 4,279.00 | 0.75 | 131.95 | 4,160.76 | -764.71 | -242.51 | 14,526,615.27 | 2,056,244.88 | 39° 59' 31.410 N | 109° 30' 55.475 W |
| 4,373.00 | 0.09 | 228.95 | 4,254.76 | -765.17 | -242.11 | 14,526,614.81 | 2,056,245.29 | 39° 59' 31.405 N | 109° 30' 55.470 W |
| 4,467.00 | 0.53 | 183.42 | 4,348.76 | -765.65 | -242.19 | 14,526,614.33 | 2,056,245.21 | 39° 59' 31.401 N | 109° 30' 55.471 W |
| 4,562.00 | 0.79 | 168.83 | 4,443.75 | -766.73 | -242.09 | 14,526,613.25 | 2,056,245.33 | 39° 59' 31.390 N | 109° 30' 55.469 W |
| 4,656.00 | 1.32 | 87.10 | 4,537.74 | -767.31 | -240.88 | 14,526,612.69 | 2,056,246.55 | 39° 59' 31.384 N | 109° 30' 55.454 W |
| 4,750.00 | 1.41 | 126.91 | 4,631.71 | -767.95 | -238.87 | 14,526,612.08 | 2,056,248.57 | 39° 59' 31.378 N | 109° 30' 55.428 W |
| 4,845.00 | 1.32 | 122.78 | 4,726.69 | -769.25 | -237.02 | 14,526,610.82 | 2,056,250.44 | 39° 59' 31.365 N | 109° 30' 55.404 W |
| 4,939.00 | 1.76 | 139.39 | 4,820.65 | -770.93 | -235.17 | 14,526,609.17 | 2,056,252.32 | 39° 59' 31.349 N | 109° 30' 55.380 W |
| 5,033.00 | 1.93 | 135.00 | 4,914.61 | -773.15 | -233.11 | 14,526,606.99 | 2,056,254.42 | 39° 59' 31.327 N | 109° 30' 55.354 W |
| 5,128.00 | 0.88 | 209.79 | 5,009.58 | -774.91 | -232.34 | 14,526,605.24 | 2,056,255.21 | 39° 59' 31.309 N | 109° 30' 55.344 W |
| 5,222.00 | 1.14 | 177.18 | 5,103.57 | -776.47 | -232.65 | 14,526,603.67 | 2,056,254.93 | 39° 59' 31.294 N | 109° 30' 55.348 W |
| 5,316.00 | 1.14 | 172.88 | 5,197.55 | -778.33 | -232.49 | 14,526,601.81 | 2,056,255.12 | 39° 59' 31.275 N | 109° 30' 55.346 W |
| 5,411.00 | 1.06 | 185.62 | 5,292.53 | -780.14 | -232.46 | 14,526,600.00 | 2,056,255.18 | 39° 59' 31.257 N | 109° 30' 55.346 W |
| 5,505.00 | 1.41 | 182.46 | 5,386.51 | -782.17 | -232.60 | 14,526,597.98 | 2,056,255.08 | 39° 59' 31.237 N | 109° 30' 55.347 W |
| 5,599.00 | 0.53 | 103.97 | 5,480.50 | -783.43 | -232.22 | 14,526,596.73 | 2,056,255.47 | 39° 59' 31.225 N | 109° 30' 55.343 W |
| 5,694.00 | 1.11 | 21.13 | 5,575.49 | -782.67 | -231.46 | 14,526,597.49 | 2,056,256.22 | 39° 59' 31.232 N | 109° 30' 55.333 W |
| 5,788.00 | 0.62 | 19.86 | 5,669.48 | -781.35 | -230.96 | 14,526,598.83 | 2,056,256.70 | 39° 59' 31.246 N | 109° 30' 55.326 W |

| | | | |
|---|---|---|---|
| **Company:** | Kerr McGee Oil and Gas Onshore LP | **Local Co-ordinate Reference:** | Well NBU 921-35J1BS |
| **Project:** | Uintah County, UT UTM12 | **TVD Reference:** | GL 5119' & KB 25' @ 5144.00ft (HP 311) |
| **Site:** | NBU 921-35G Pad | **MD Reference:** | GL 5119' & KB 25' @ 5144.00ft (HP 311) |
| **Well:** | NBU 921-35J1BS | **North Reference:** | True |
| **Wellbore:** | OH | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | OH | **Database:** | EDM5000-RobertS-Local |

**Survey**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Map Northing (usft) | Map Easting (usft) | Latitude | Longitude |
|---|---|---|---|---|---|---|---|---|---|
| 5,882.00 | 0.44 | 353.40 | 5,763.48 | -780.51 | -230.83 | 14,526,599.67 | 2,056,256.81 | 39° 59' 31.254 N | 109° 30' 55.325 W |
| 5,977.00 | 0.45 | 358.47 | 5,858.47 | -779.77 | -230.88 | 14,526,600.40 | 2,056,256.75 | 39° 59' 31.261 N | 109° 30' 55.325 W |
| 6,071.00 | 0.35 | 327.30 | 5,952.47 | -779.16 | -231.05 | 14,526,601.01 | 2,056,256.58 | 39° 59' 31.267 N | 109° 30' 55.327 W |
| 6,165.00 | 0.44 | 349.71 | 6,046.47 | -778.57 | -231.27 | 14,526,601.60 | 2,056,256.35 | 39° 59' 31.273 N | 109° 30' 55.330 W |
| 6,260.00 | 1.32 | 133.85 | 6,141.46 | -778.97 | -230.55 | 14,526,601.21 | 2,056,257.08 | 39° 59' 31.269 N | 109° 30' 55.321 W |
| 6,354.00 | 0.97 | 138.58 | 6,235.44 | -780.31 | -229.24 | 14,526,599.89 | 2,056,258.41 | 39° 59' 31.256 N | 109° 30' 55.304 W |
| 6,449.00 | 1.23 | 163.47 | 6,330.43 | -781.89 | -228.42 | 14,526,598.32 | 2,056,259.25 | 39° 59' 31.240 N | 109° 30' 55.294 W |
| 6,543.00 | 1.06 | 155.65 | 6,424.41 | -783.65 | -227.77 | 14,526,596.57 | 2,056,259.93 | 39° 59' 31.223 N | 109° 30' 55.285 W |
| 6,638.00 | 1.32 | 163.30 | 6,519.39 | -785.50 | -227.09 | 14,526,594.74 | 2,056,260.64 | 39° 59' 31.204 N | 109° 30' 55.277 W |
| 6,732.00 | 0.44 | 172.61 | 6,613.37 | -786.90 | -226.74 | 14,526,593.35 | 2,056,261.02 | 39° 59' 31.191 N | 109° 30' 55.272 W |
| 6,826.00 | 0.97 | 140.27 | 6,707.37 | -787.87 | -226.18 | 14,526,592.39 | 2,056,261.59 | 39° 59' 31.181 N | 109° 30' 55.265 W |
| 6,920.00 | 1.06 | 173.67 | 6,801.35 | -789.34 | -225.58 | 14,526,590.92 | 2,056,262.22 | 39° 59' 31.167 N | 109° 30' 55.257 W |
| 7,015.00 | 0.18 | 192.74 | 6,896.35 | -790.36 | -225.51 | 14,526,589.90 | 2,056,262.30 | 39° 59' 31.156 N | 109° 30' 55.256 W |
| 7,109.00 | 0.35 | 137.72 | 6,990.35 | -790.72 | -225.35 | 14,526,589.55 | 2,056,262.46 | 39° 59' 31.153 N | 109° 30' 55.254 W |
| 7,203.00 | 0.53 | 126.12 | 7,084.34 | -791.19 | -224.81 | 14,526,589.09 | 2,056,263.02 | 39° 59' 31.148 N | 109° 30' 55.247 W |
| 7,297.00 | 0.53 | 151.52 | 7,178.34 | -791.82 | -224.25 | 14,526,588.46 | 2,056,263.59 | 39° 59' 31.142 N | 109° 30' 55.240 W |
| 7,392.00 | 0.70 | 144.05 | 7,273.33 | -792.68 | -223.70 | 14,526,587.61 | 2,056,264.15 | 39° 59' 31.134 N | 109° 30' 55.233 W |
| 7,486.00 | 0.62 | 180.70 | 7,367.33 | -793.65 | -223.37 | 14,526,586.65 | 2,056,264.50 | 39° 59' 31.124 N | 109° 30' 55.229 W |
| 7,581.00 | 0.44 | 130.16 | 7,462.32 | -794.40 | -223.10 | 14,526,585.90 | 2,056,264.78 | 39° 59' 31.117 N | 109° 30' 55.225 W |
| 7,675.00 | 0.53 | 186.24 | 7,556.32 | -795.07 | -222.87 | 14,526,585.24 | 2,056,265.02 | 39° 59' 31.110 N | 109° 30' 55.222 W |
| 7,769.00 | 0.44 | 186.06 | 7,650.32 | -795.86 | -222.95 | 14,526,584.45 | 2,056,264.95 | 39° 59' 31.102 N | 109° 30' 55.223 W |
| 7,864.00 | 0.97 | 218.40 | 7,745.31 | -796.85 | -223.49 | 14,526,583.45 | 2,056,264.43 | 39° 59' 31.092 N | 109° 30' 55.230 W |
| 7,958.00 | 0.97 | 220.87 | 7,839.30 | -798.08 | -224.51 | 14,526,582.21 | 2,056,263.43 | 39° 59' 31.080 N | 109° 30' 55.243 W |
| 8,052.00 | 0.79 | 191.69 | 7,933.29 | -799.31 | -225.16 | 14,526,580.96 | 2,056,262.80 | 39° 59' 31.068 N | 109° 30' 55.252 W |
| 8,147.00 | 0.88 | 142.82 | 8,028.28 | -800.54 | -224.85 | 14,526,579.74 | 2,056,263.13 | 39° 59' 31.056 N | 109° 30' 55.248 W |
| 8,241.00 | 1.14 | 149.32 | 8,122.26 | -801.92 | -223.94 | 14,526,578.38 | 2,056,264.07 | 39° 59' 31.042 N | 109° 30' 55.236 W |
| 8,335.00 | 0.97 | 139.83 | 8,216.25 | -803.33 | -222.95 | 14,526,576.98 | 2,056,265.08 | 39° 59' 31.028 N | 109° 30' 55.223 W |
| 8,430.00 | 1.14 | 145.46 | 8,311.23 | -804.72 | -221.89 | 14,526,575.61 | 2,056,266.16 | 39° 59' 31.015 N | 109° 30' 55.210 W |
| 8,524.00 | 1.58 | 135.52 | 8,405.20 | -806.42 | -220.45 | 14,526,573.94 | 2,056,267.63 | 39° 59' 30.998 N | 109° 30' 55.191 W |
| 8,618.00 | 0.53 | 221.57 | 8,499.19 | -807.67 | -219.83 | 14,526,572.70 | 2,056,268.27 | 39° 59' 30.985 N | 109° 30' 55.183 W |
| 8,712.00 | 0.77 | 183.23 | 8,593.18 | -808.62 | -220.16 | 14,526,571.73 | 2,056,267.96 | 39° 59' 30.976 N | 109° 30' 55.187 W |
| 8,807.00 | 1.85 | 266.31 | 8,688.16 | -809.36 | -221.72 | 14,526,570.97 | 2,056,266.40 | 39° 59' 30.969 N | 109° 30' 55.208 W |
| 8,901.00 | 1.32 | 243.37 | 8,782.13 | -809.94 | -224.21 | 14,526,570.35 | 2,056,263.93 | 39° 59' 30.963 N | 109° 30' 55.240 W |
| 8,995.00 | 1.23 | 238.36 | 8,876.11 | -810.95 | -226.03 | 14,526,569.30 | 2,056,262.12 | 39° 59' 30.953 N | 109° 30' 55.263 W |
| 9,820.00 | 2.60 | 106.30 | 9,700.85 | -820.85 | -215.61 | 14,526,559.58 | 2,056,272.71 | 39° 59' 30.855 N | 109° 30' 55.129 W |
| LAST SDI MWD PRODUCTION SURVEY | | | | | | | | | |
| 9,850.00 | 2.60 | 106.30 | 9,730.82 | -821.24 | -214.30 | 14,526,559.22 | 2,056,274.02 | 39° 59' 30.851 N | 109° 30' 55.112 W |
| SDI PROJECTION TO TD | | | | | | | | | |

**Design Annotations**

| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates +N/-S (ft) | Local Coordinates +E/-W (ft) | Comment |
|---|---|---|---|---|
| 167.00 | 167.00 | -0.63 | -0.14 | FIRST SDI MWD SURFACE SURVEY |
| 2,407.00 | 2,322.43 | -519.45 | -160.49 | LAST SDI MWD SURFACE SURVEY |
| 2,486.00 | 2,397.14 | -543.60 | -169.23 | FIRST SDI MWD PRODUCTION SURVEY |
| 9,820.00 | 9,700.85 | -820.85 | -215.61 | LAST SDI MWD PRODUCTION SURVEY |
| 9,850.00 | 9,730.82 | -821.24 | -214.30 | SDI PROJECTION TO TD |



Checked By: _____ Approved By: _____ Date: _____